

Colorado Weather Update

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Colorado Climate Center
Colorado State University

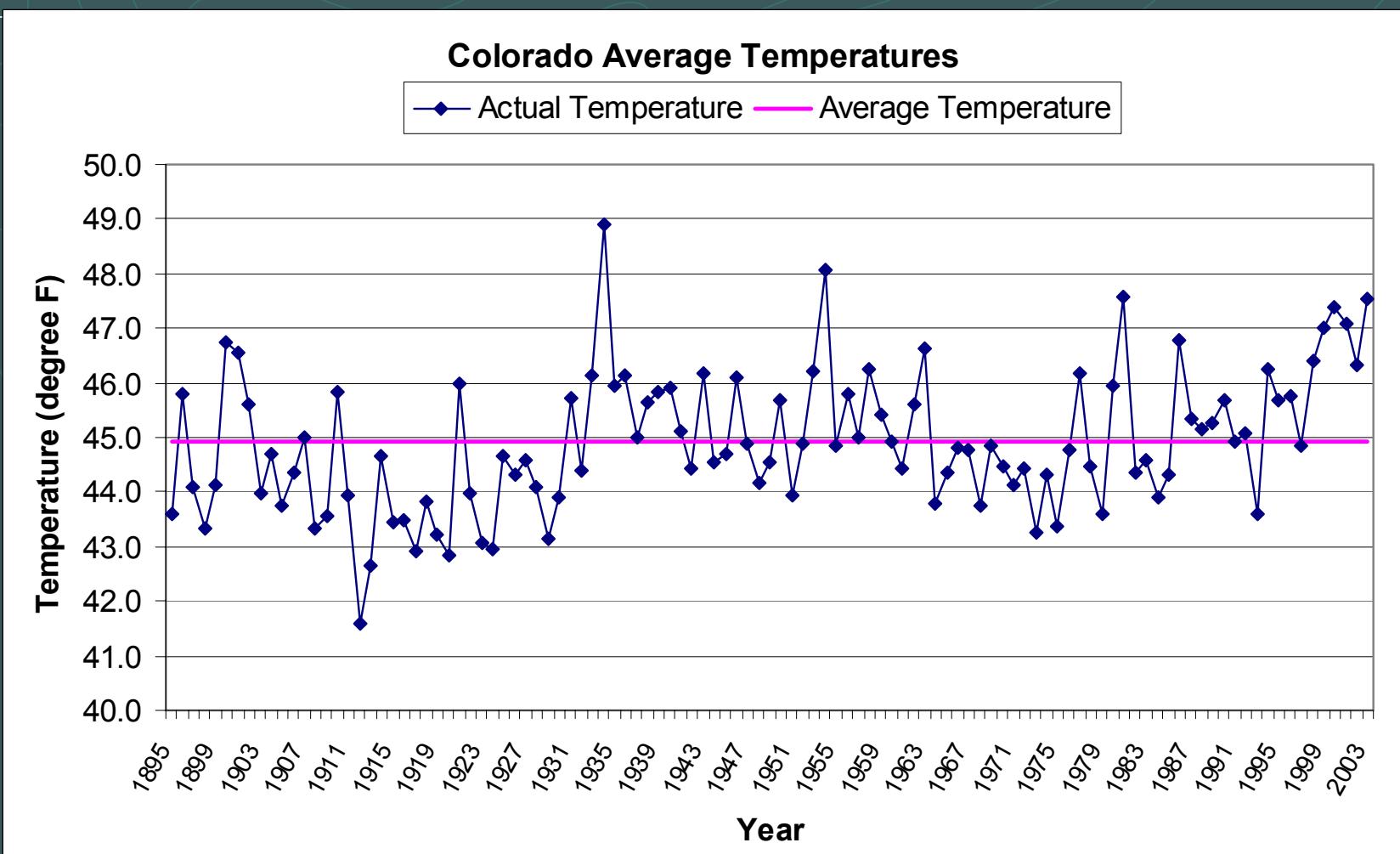
<http://ccc.atmos.colostate.edu>

Presented at Colorado Wheat Day, Colorado Wheat Growers Association,
November 20, 2004, Estes Park, Colorado

Prepared by Odie Bliss



Statewide Mean Annual Temperature History

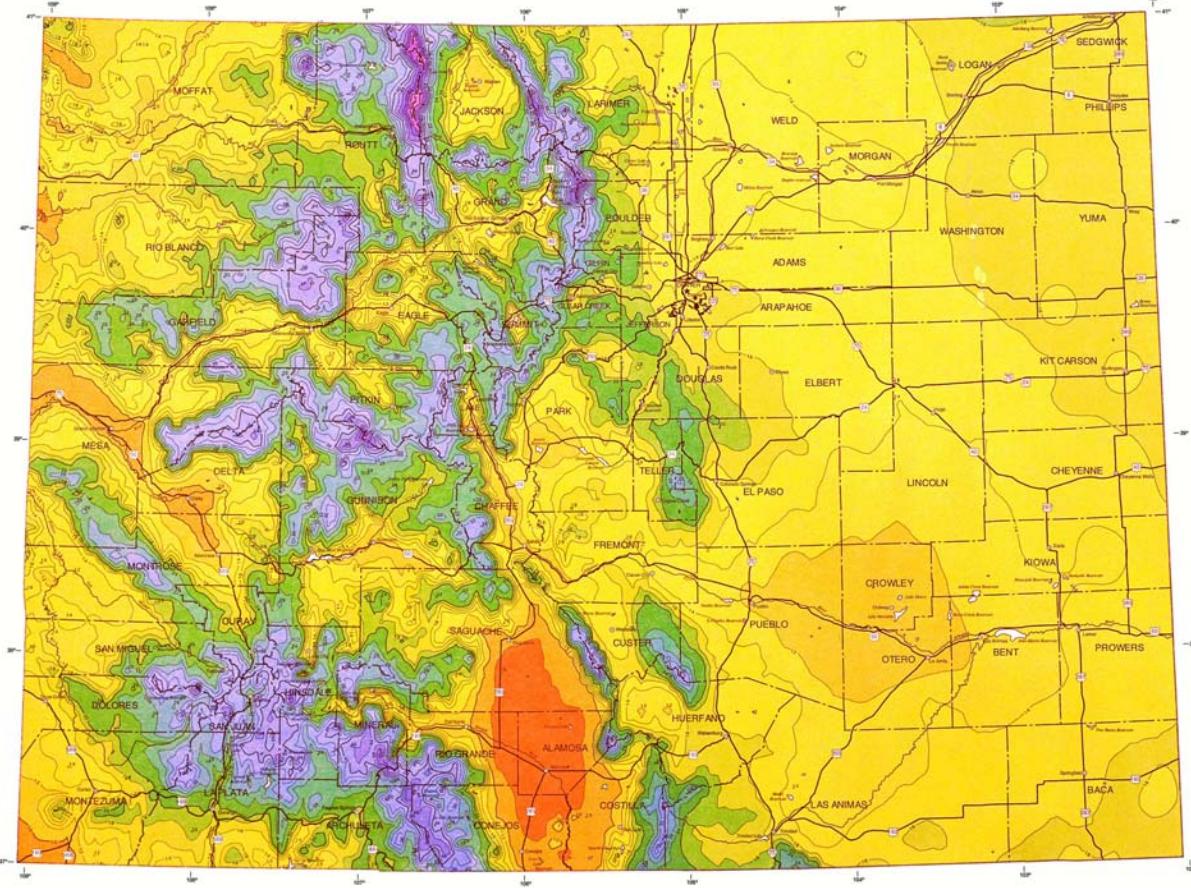


Colorado Average Precipitation

U.S. DEPARTMENT OF AGRICULTURE

NATIONAL RESOURCES CONSERVATION SERVICE

COLORADO ANNUAL PRECIPITATION



Map in cooperation with Oregon State University

Data Source: NRCS Cooperative Climate (1961-1990) climate observation, NRCS SHATEL station normals.

Map Source: NRCS Cooperative Climate (1961-1990) climate observation, NRCS SHATEL station normals.

Digital Elevation Model: The PRISM DEM is derived from a 10 arc second Defense Mapping Agency (DMA) Digital Terrain Elevation Dataset (DTED) obtained from the ERCC Data Center.

USDA NRCS National Cartography and Geospatial Center, Fort Worth, TX 1998

Estimation Technique: Gridded estimates were derived from station point values using the PRISM model developed at Oregon State University.

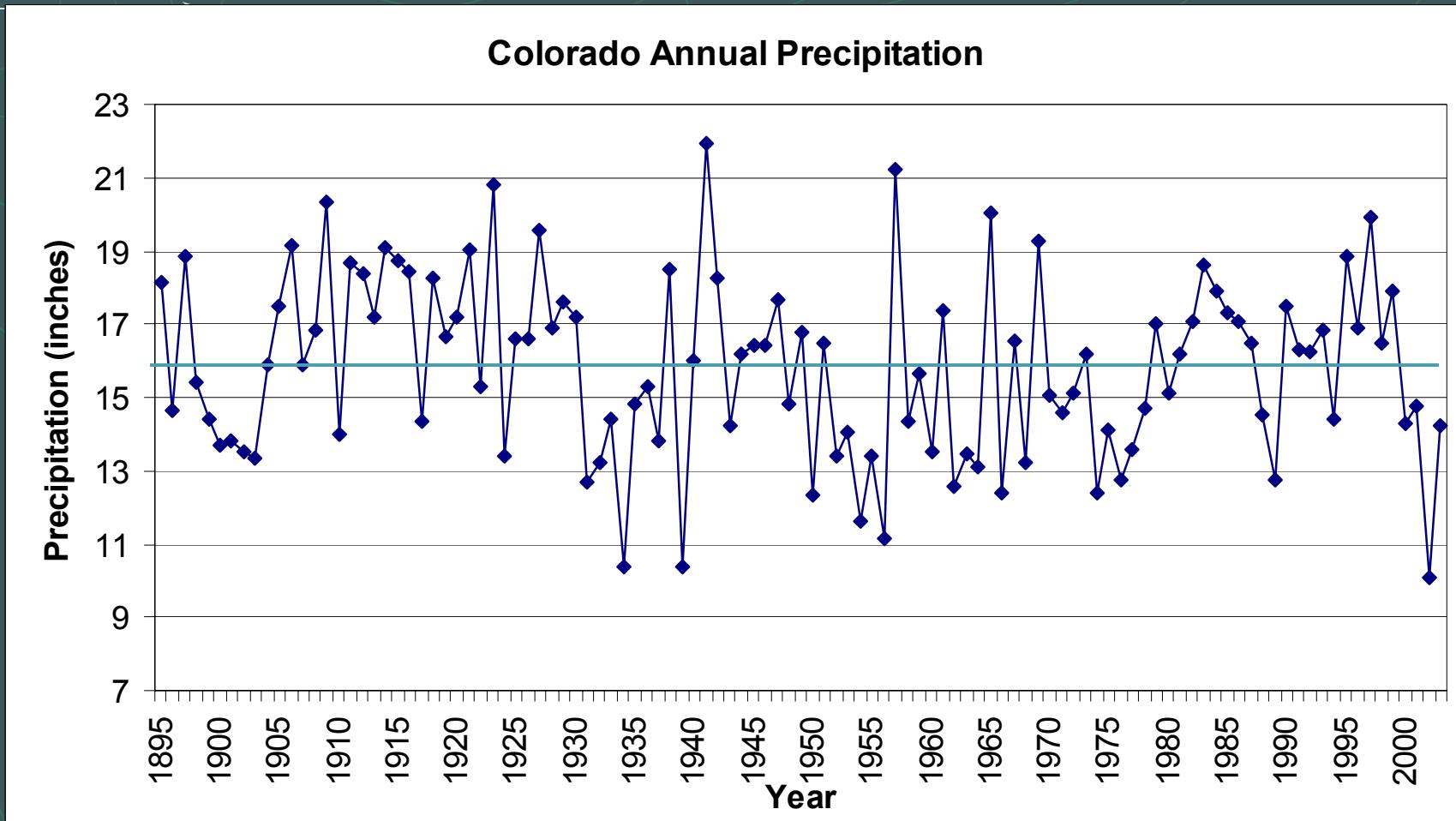
The modeled grid was approximately 1 km resolution and was resampled to 2 km using a Gaussian filter.

Climate Dataset: April 1998 Albers Equal Area Projection, NAD 27

SCALE 1:1,185,000

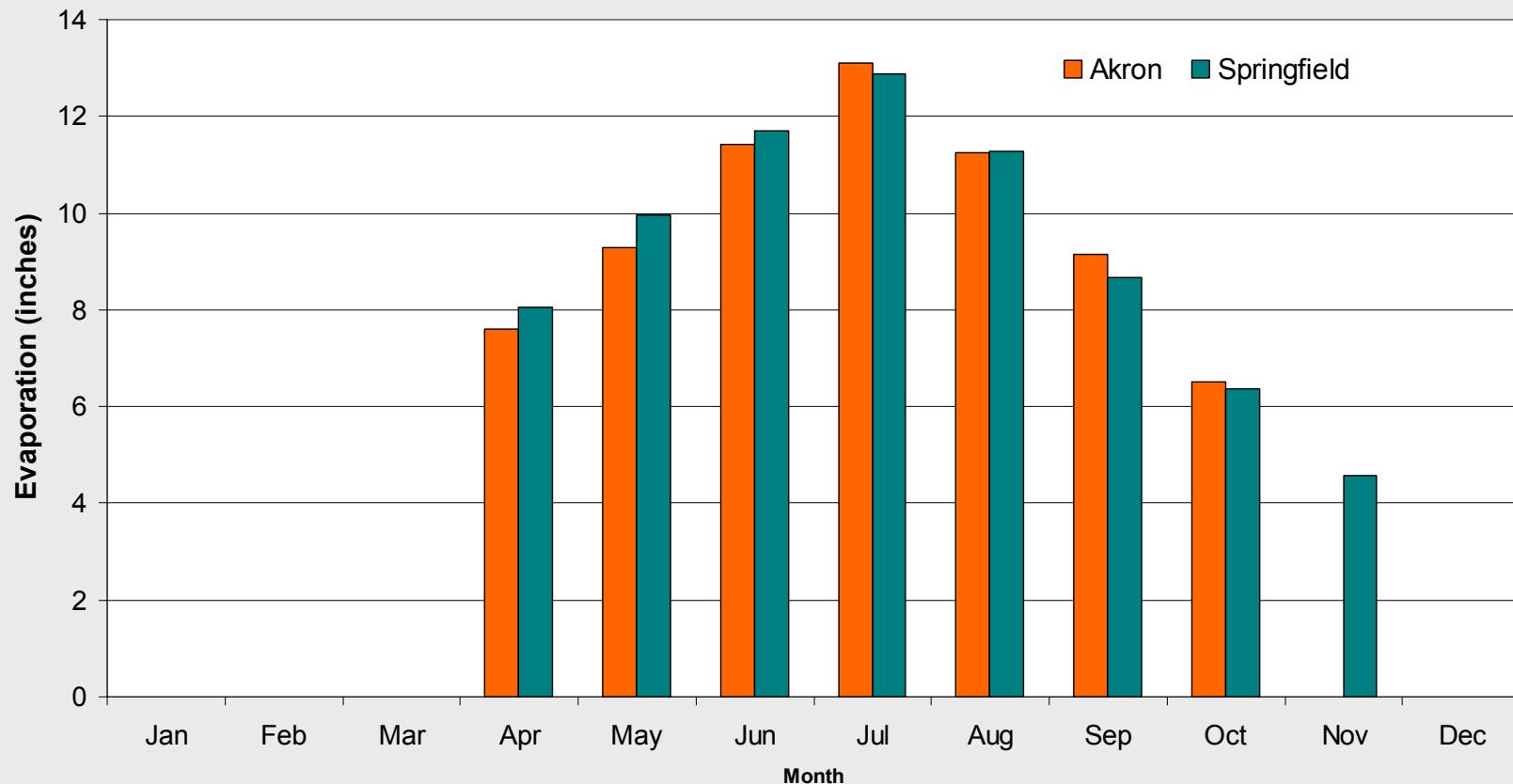
SOURCE NOTE
Users are cautioned that contours may not exactly match station-observed precipitation especially in regions with significant precipitation gradients and/or April 1998 datasets.

Statewide Annual Precipitation History



Monthly Average Pan Evaporation

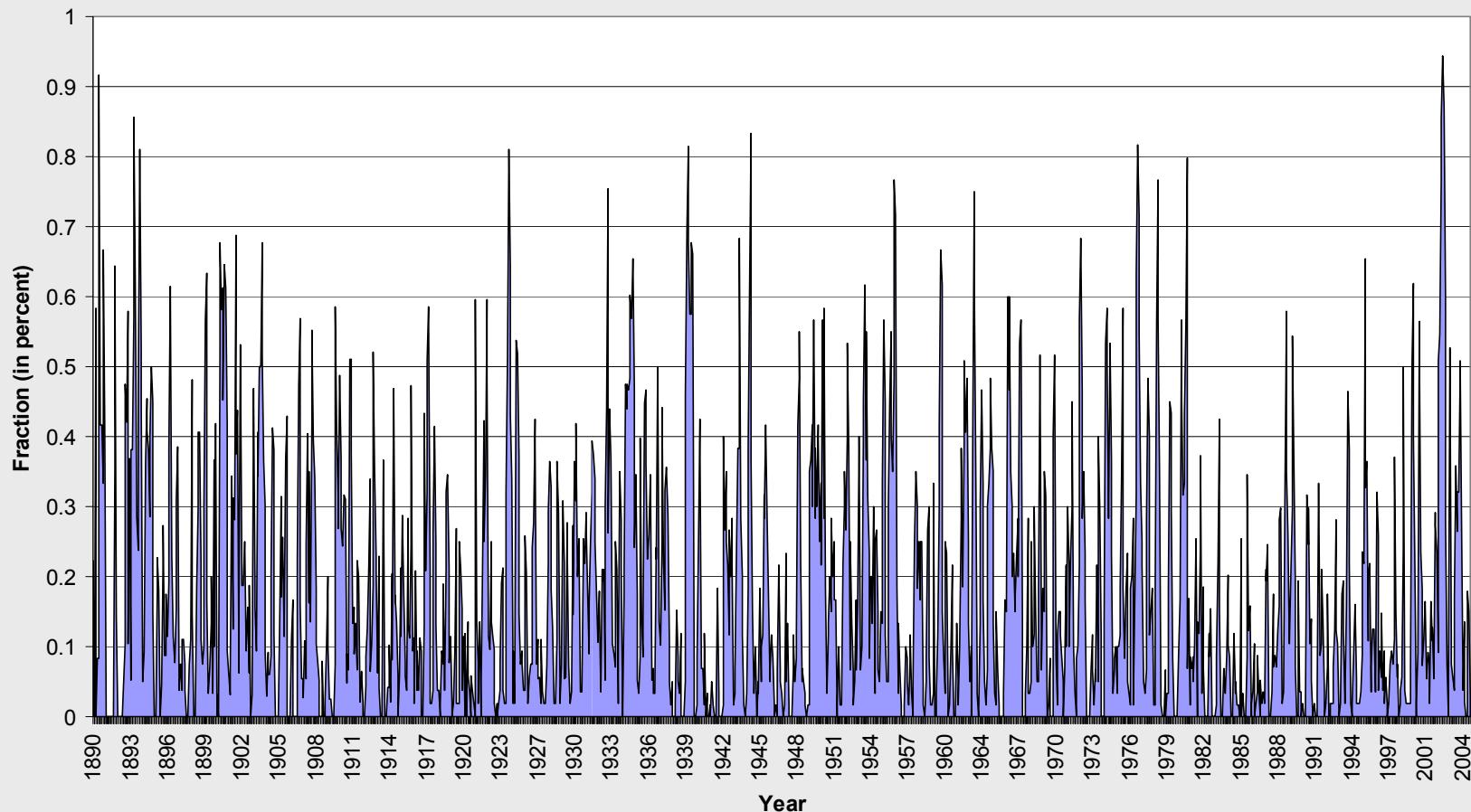
Average Monthly Pan Evaporation
for Akron and Springfield, Colorado



3-Month SPI

Fraction of Colorado in Drought Based on 3 month SPI

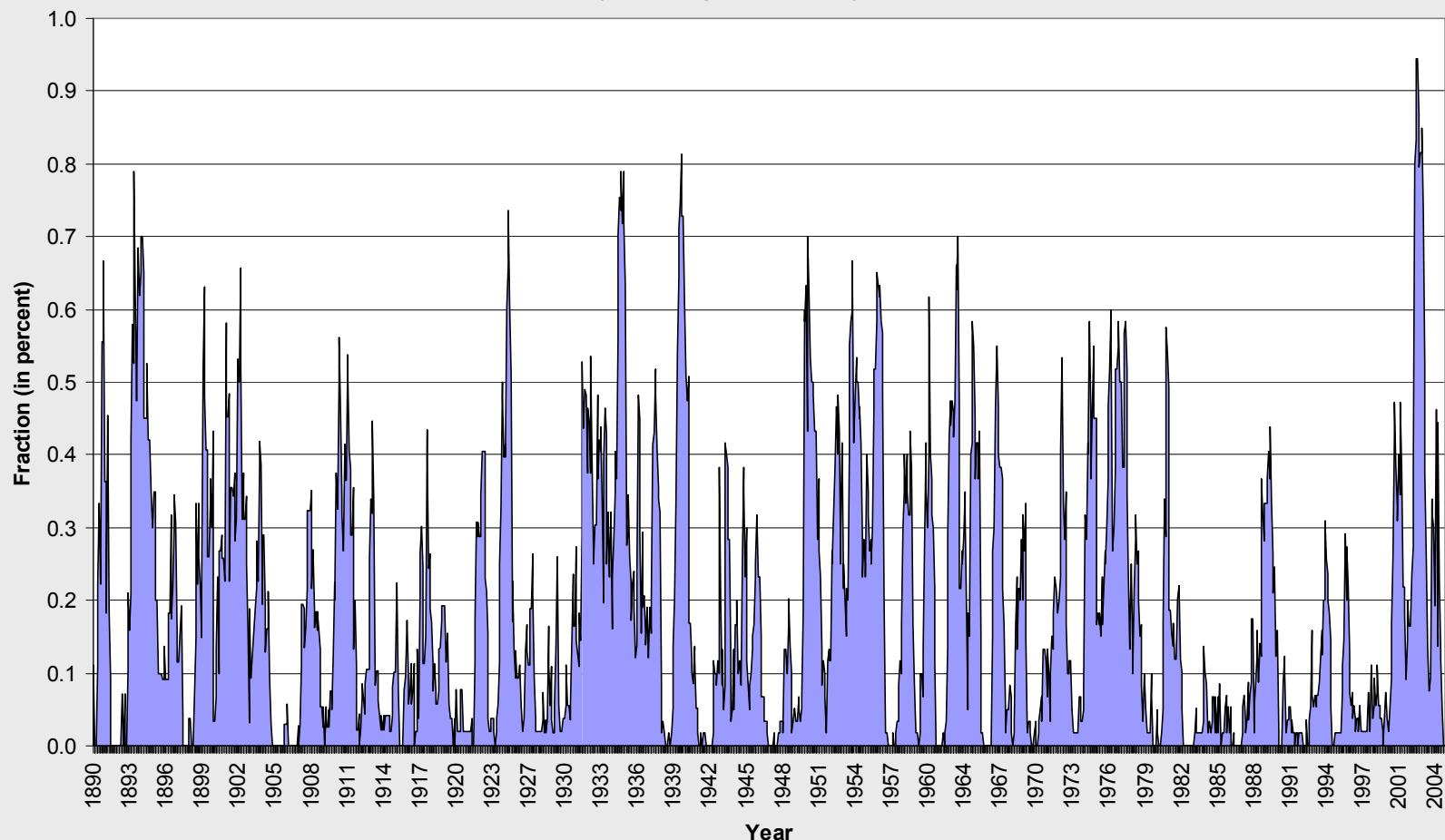
(1890 - September 2004)



12-Month SPI

Fraction of Colorado in Drought Based on 12 month SPI

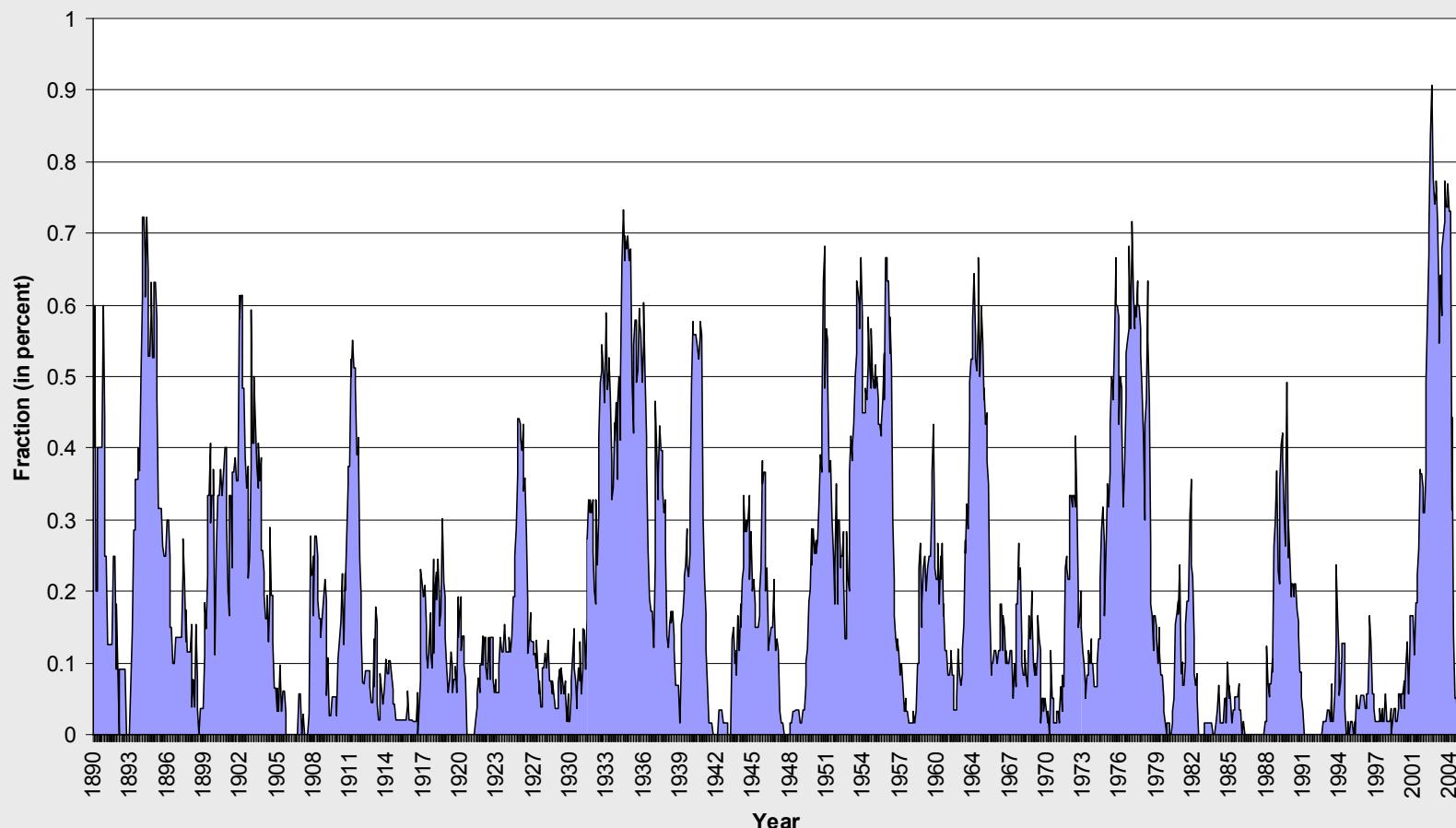
(1890 - September 2004)



24-Month SPI

Fraction of Colorado in Drought Based on 24 month SPI

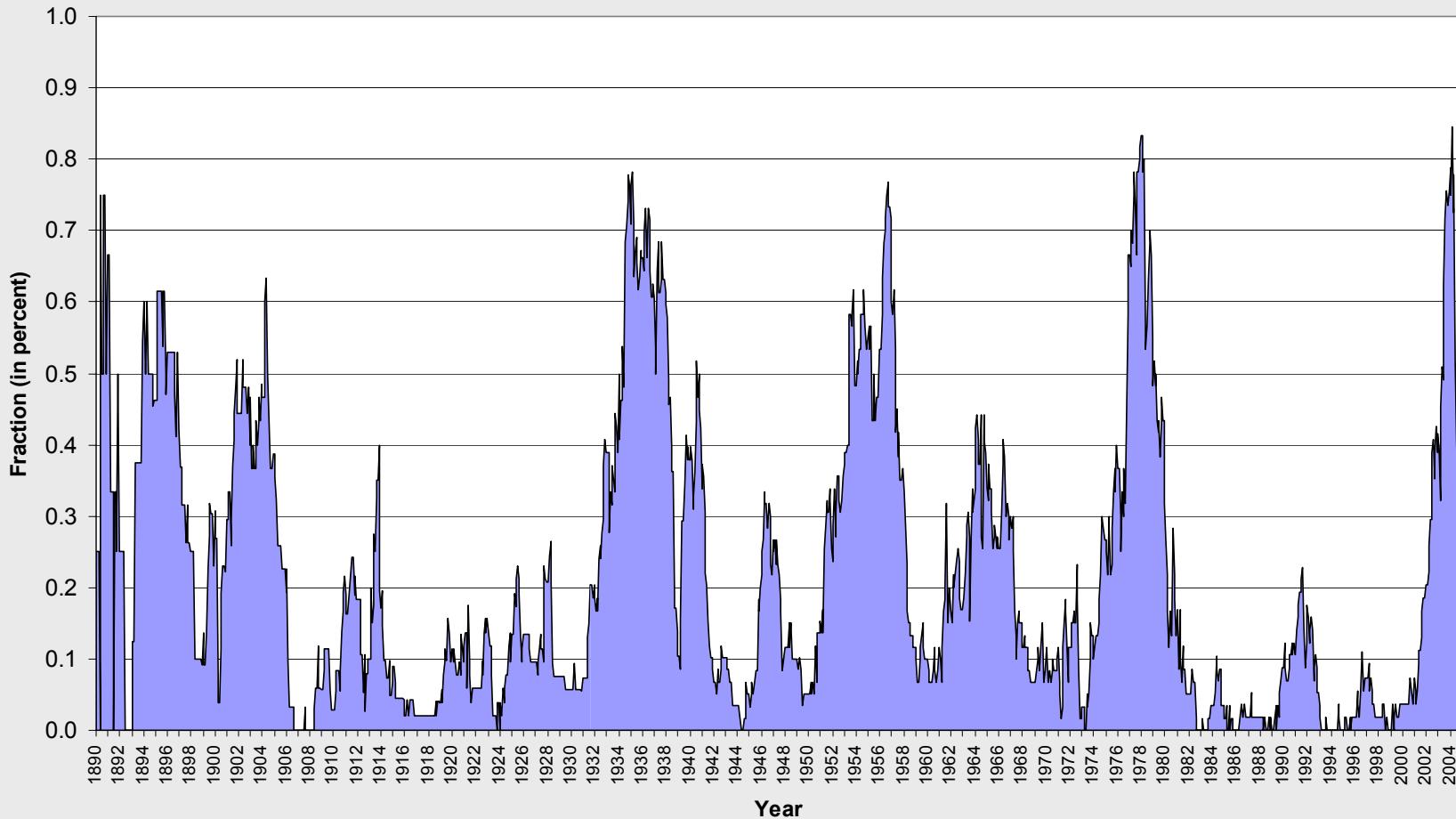
(1890 - September 2004)



48-Month SPI

Fraction of Colorado in Drought Based on 48 month SPI

(1890 - September 2004)

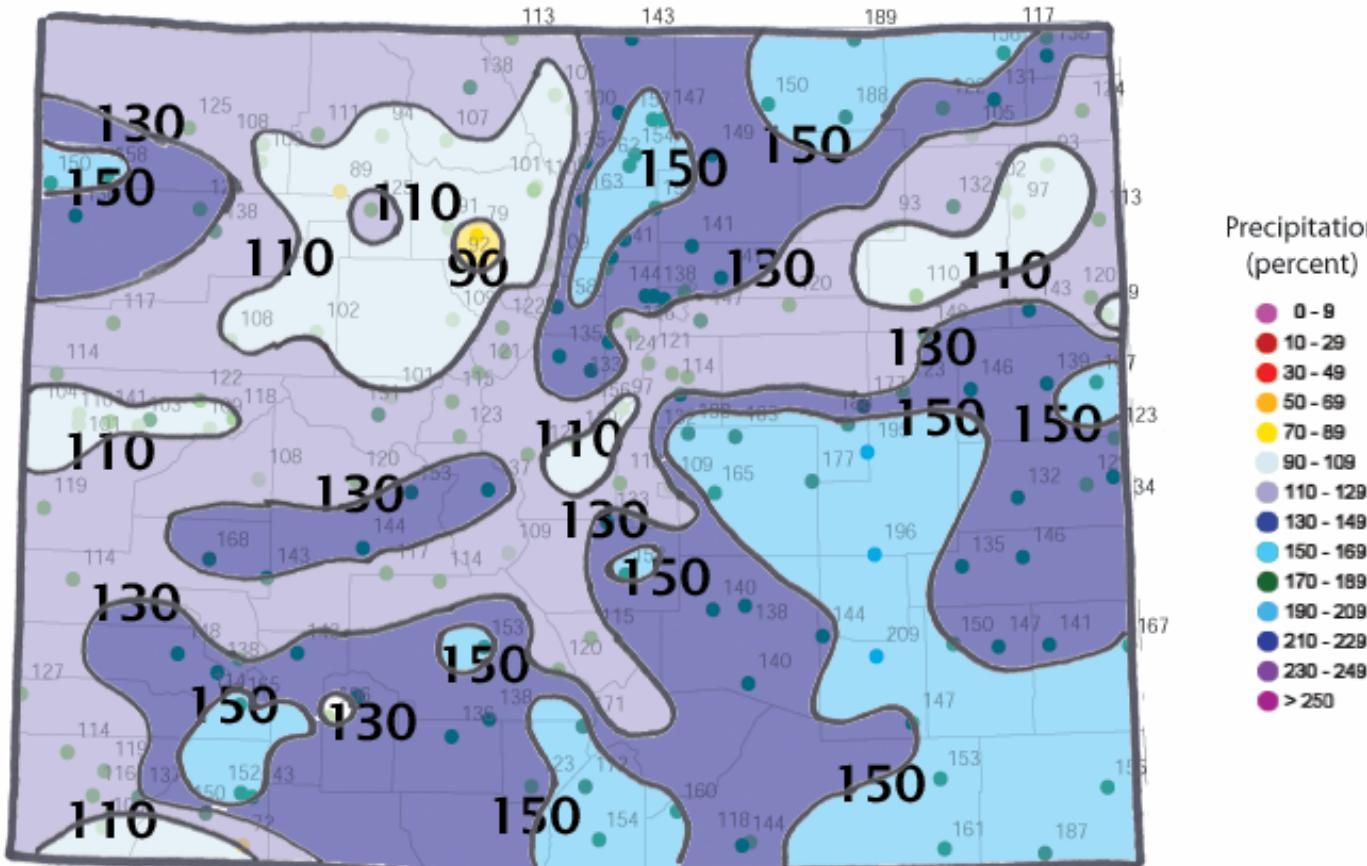


The Evolution of Our Recent Drought



1999 Water Year Precipitation

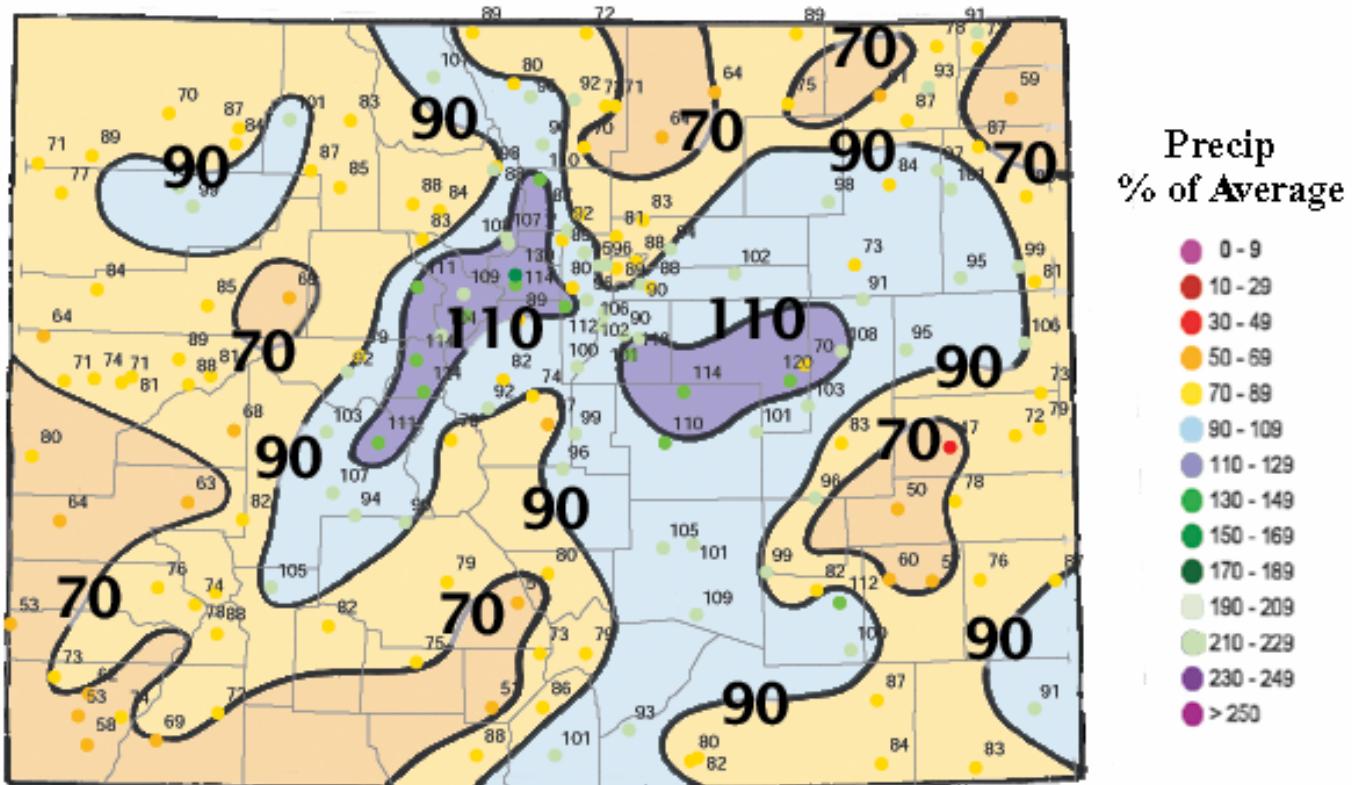
Water Year 1999
(Oct. 1998-Sept. 1999)
Precipitation Percent of Average for 1961-1990 Averages



2000 Water Year Precipitation

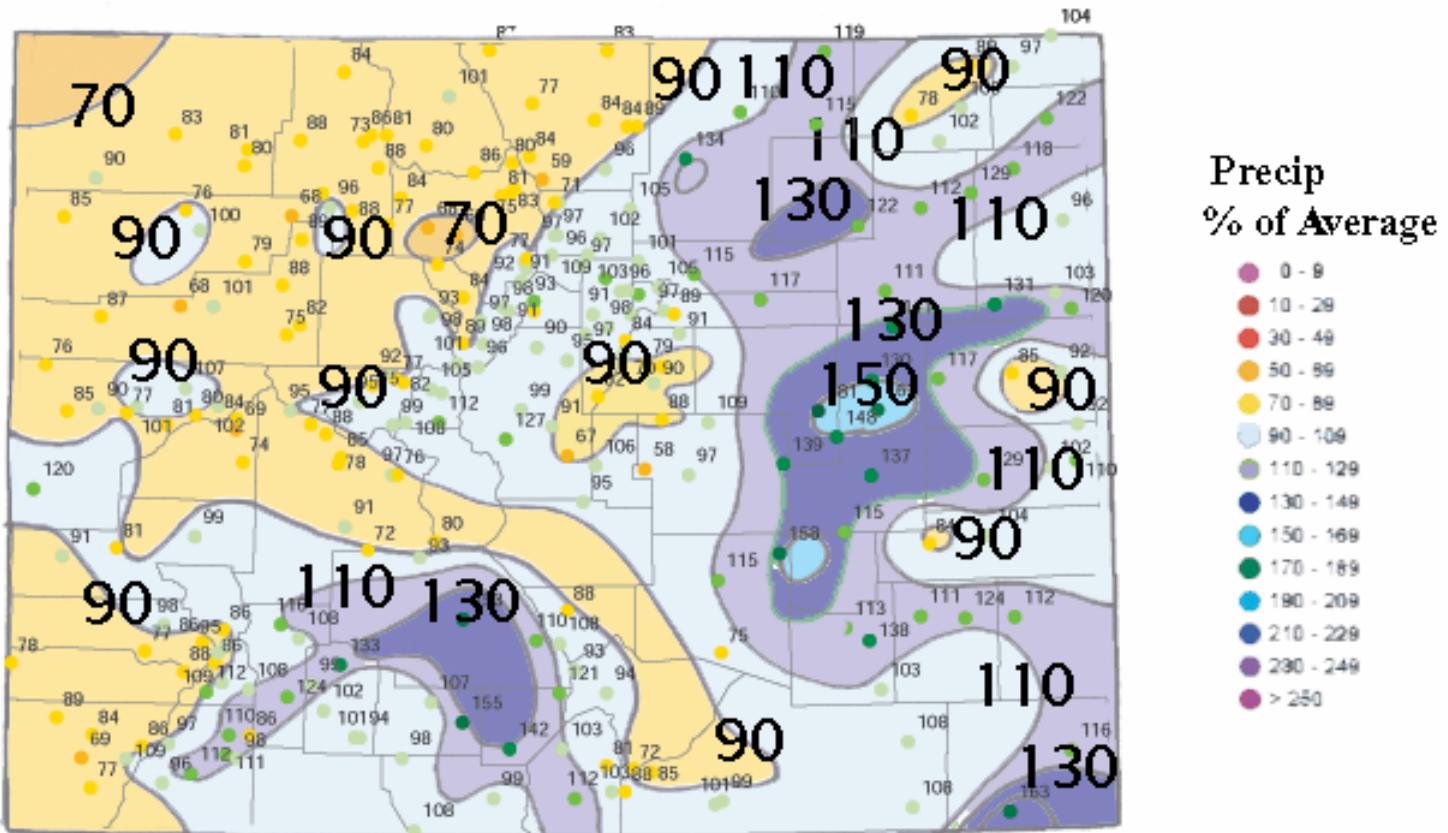
Water Year 2000
(Oct. 1999 - Sept. 2000)

Precipitation Percent of Average for 1961-1990 Averages



2001 Water Year Precipitation

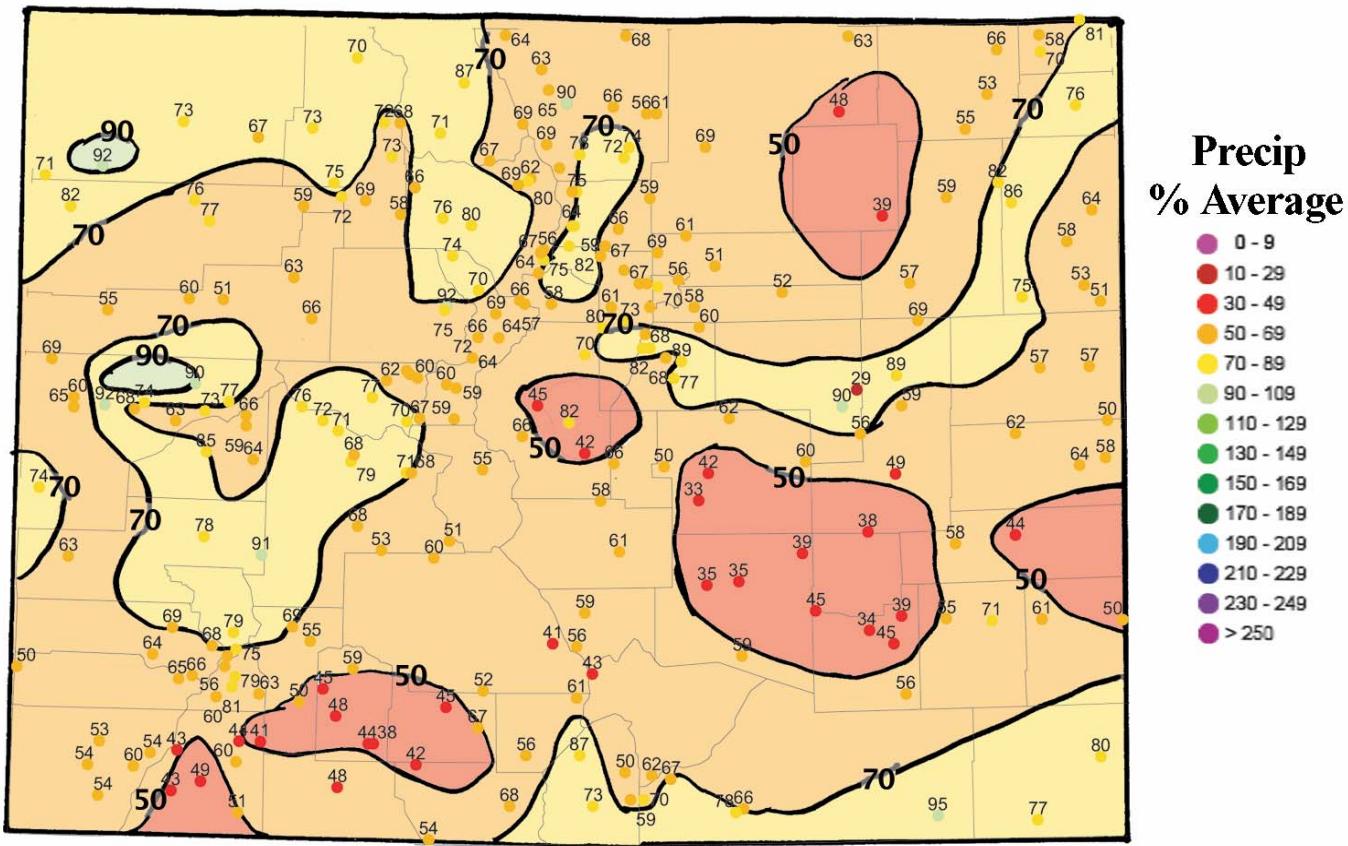
Water Year 2001
(Oct. 2000 - Sept. 2001)
Precipitation Percent of Average for 1961-1990 Averages



2002 Water Year Precipitation

Water Year 2002
(Oct. 2001 - Sept. 2002)

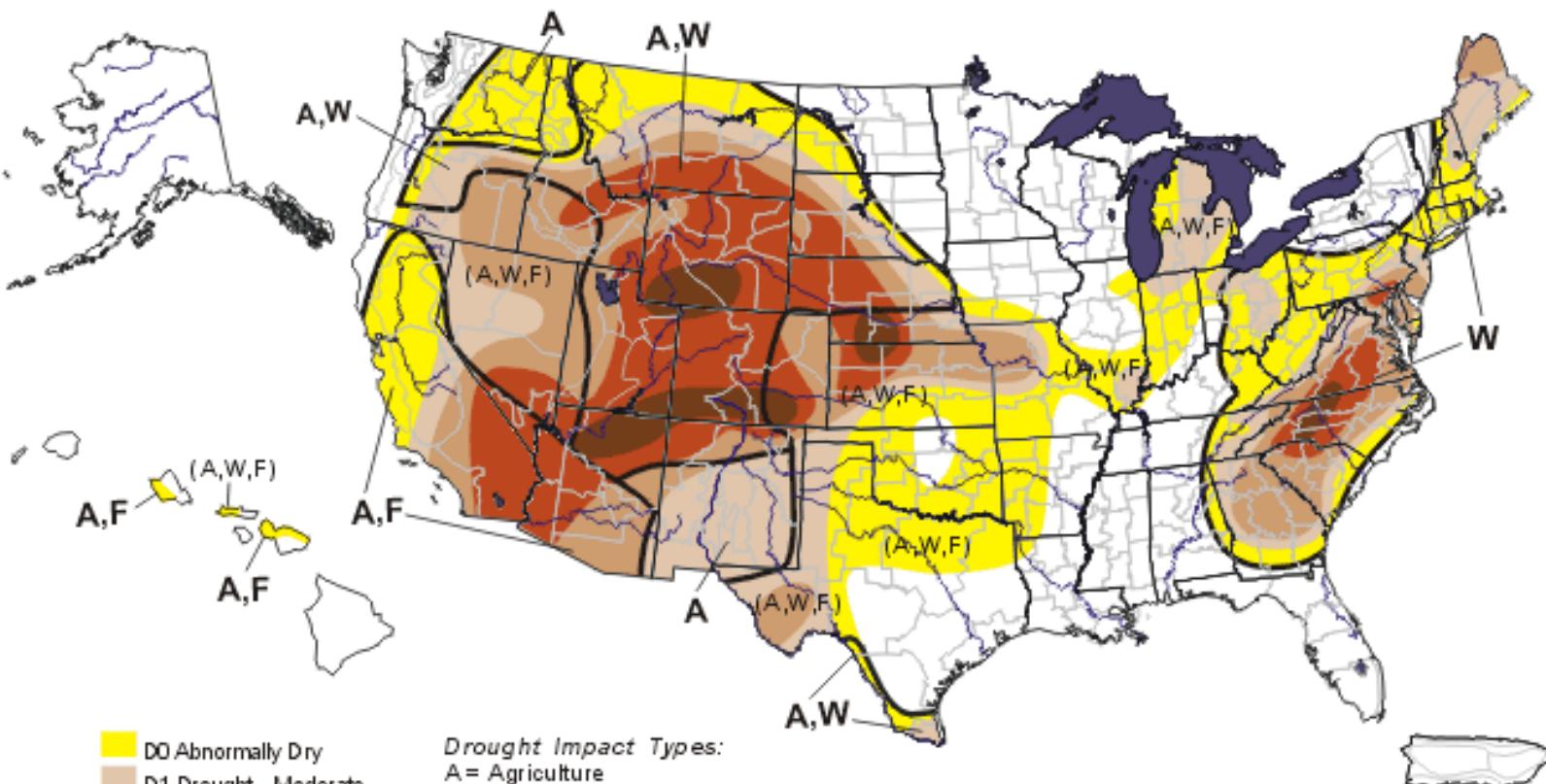
Precipitation Percent of Average for 1961-1990 Averages



U.S. Drought Monitor

October 1, 2002

Valid 8 a.m. EDT



- A vertical legend consisting of five colored squares with corresponding labels:

 - Yellow square: D0 Abnormally Dry
 - Peach square: D1 Drought—Moderate
 - Brown square: D2 Drought—Severe
 - Dark Red square: D3 Drought—Extreme
 - Black square: D4 Drought—Exceptional

Drought Impact Types:
A = Agriculture
W = Water (Hydrological)
F = Fire danger (Wildfires)
 Delineates dominant impacts
(No type = All 3 impacts)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://drought.unl.edu/dm>



Released Thursday, October 3, 2002

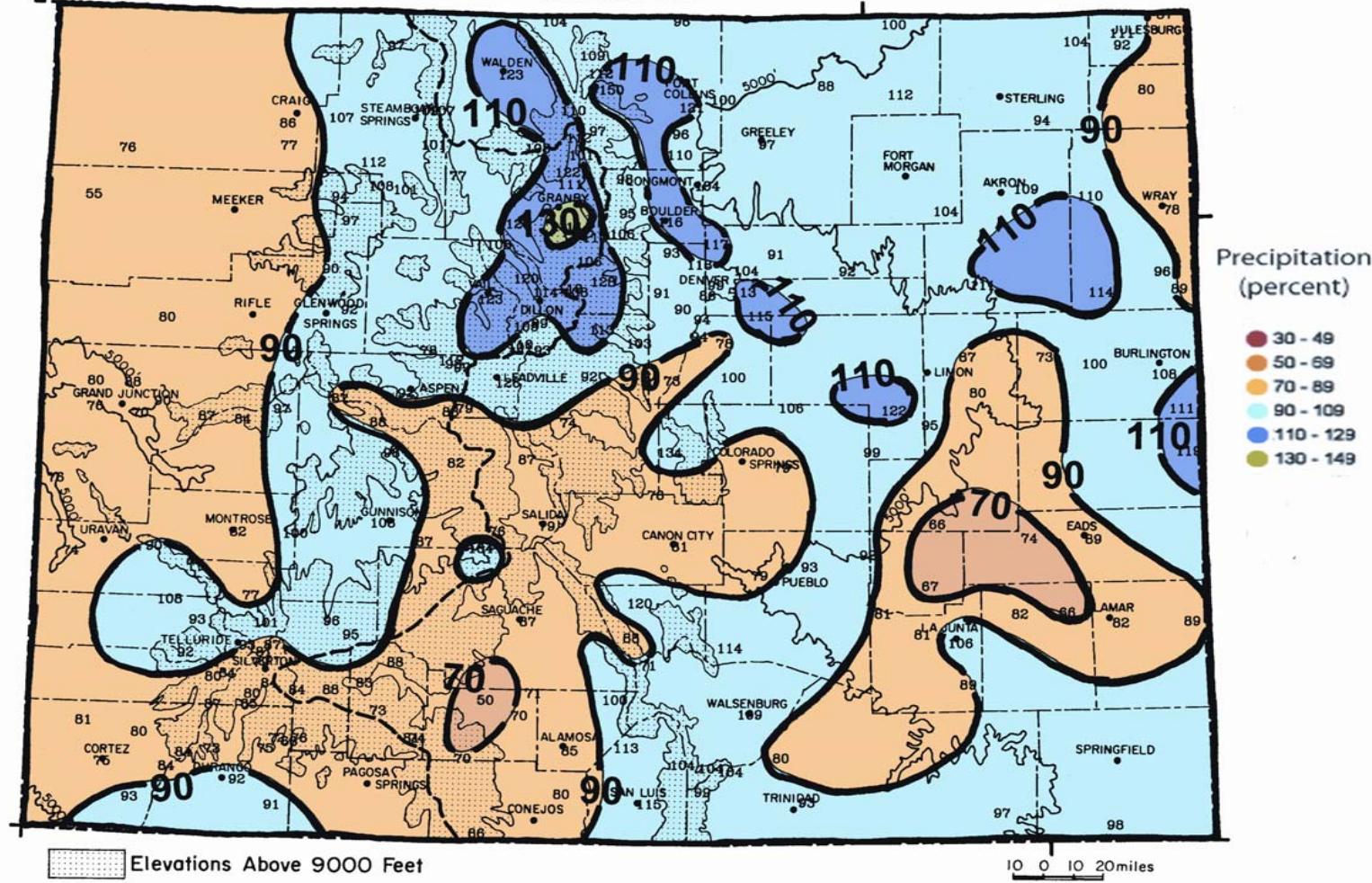
Author: Rich Tinker, CPC/NCEP/NWS/NOAA

2003 Water Year Precipitation

Water Year 2003

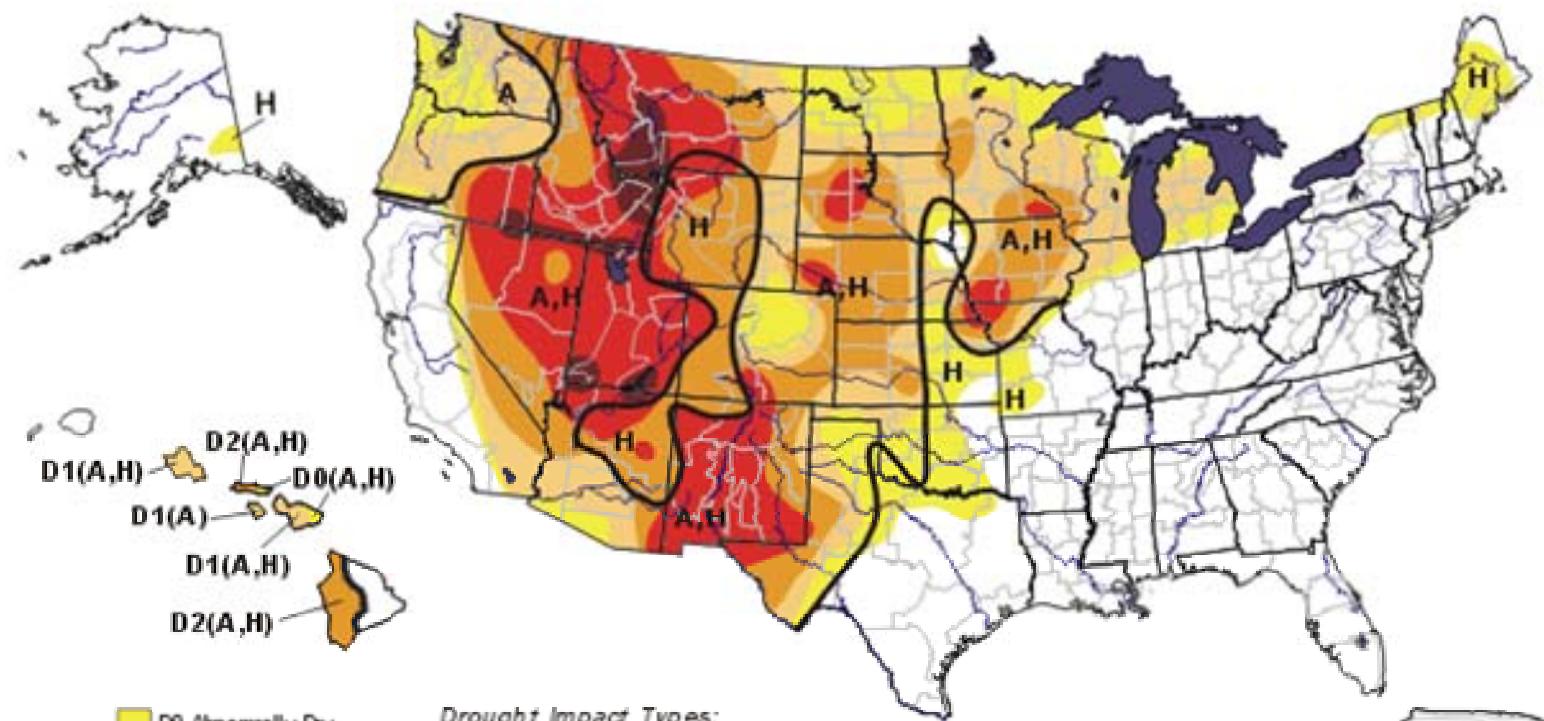
October 2002 - September 2003 precipitation
as a percent of the 1971-2000 average.

COLORADO



U.S. Drought Monitor

September 30, 2003
Valid 8 a.m. EDT



- D0 Abnormally Dry
- D1 Drought—Moderate
- D2 Drought—Severe
- D3 Drought—Extreme
- D4 Drought—Exceptional

- Drought Impact Types:
- A= Agricultural (crops, pastures, grasslands)
 - H= Hydrological (water)
 - No type = both impacts
- ↗ Delineates dominant impacts

The Drought Monitor focuses on broad-scale conditions.
Local conditions may vary. See accompanying text summary
for forecast statements.

<http://drought.unl.edu/dm>

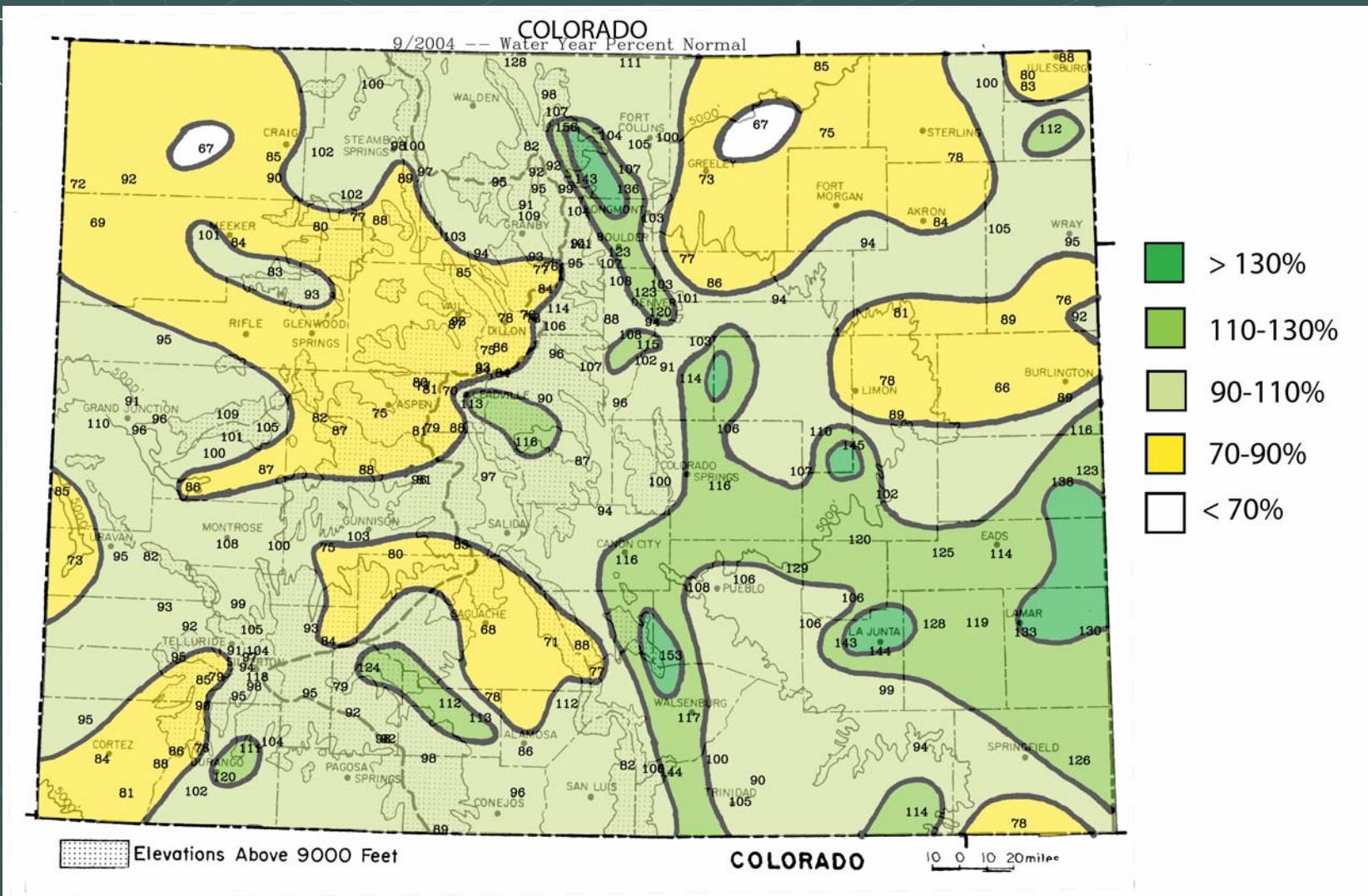


Released Thursday, October 2, 2003
Author: Candace Tankersley/Scott Stephens, NOAA/NCDC

Where Do We Stand Now?

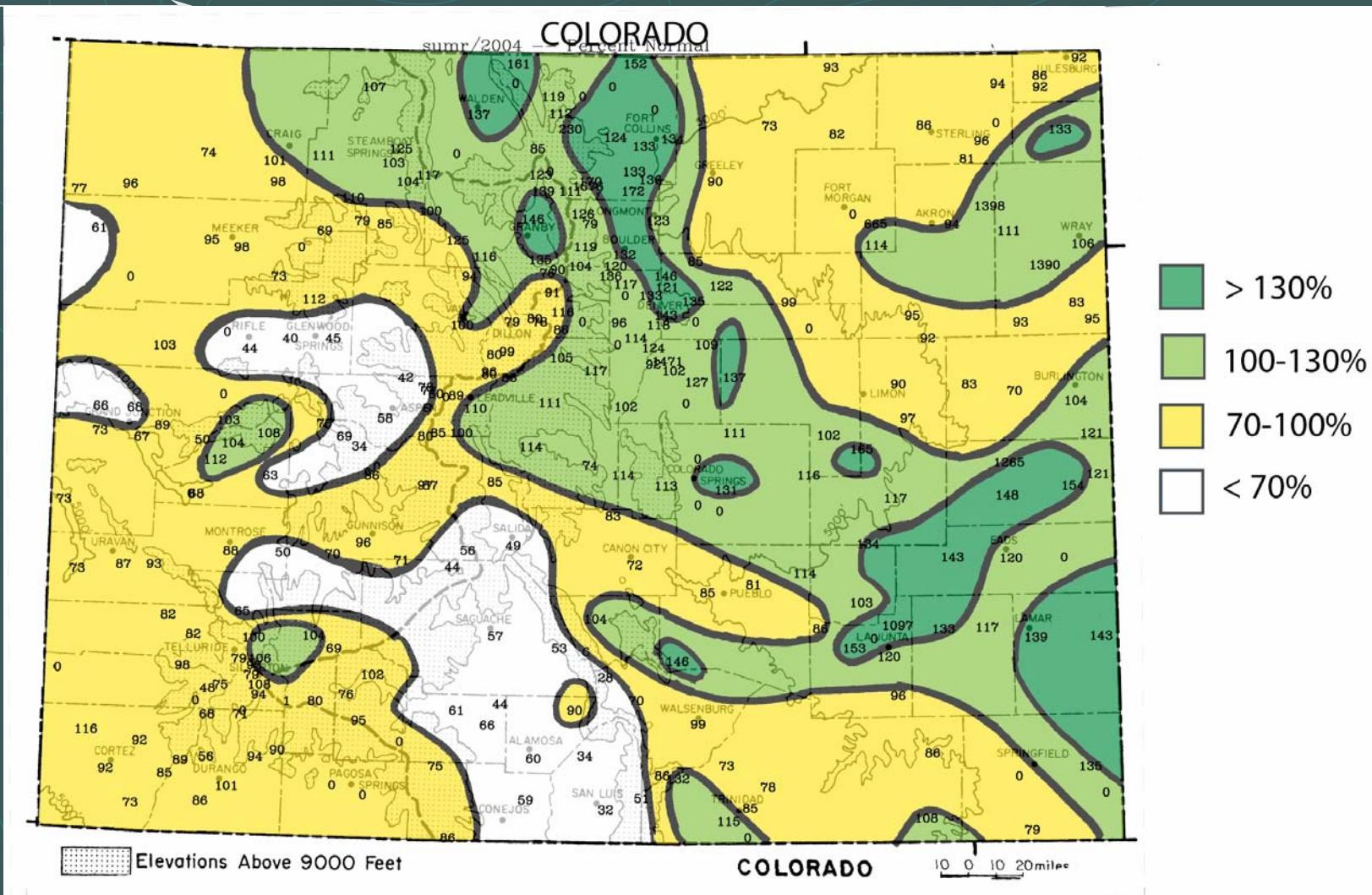


Water Year 2004 Precipitation as Percent of Average



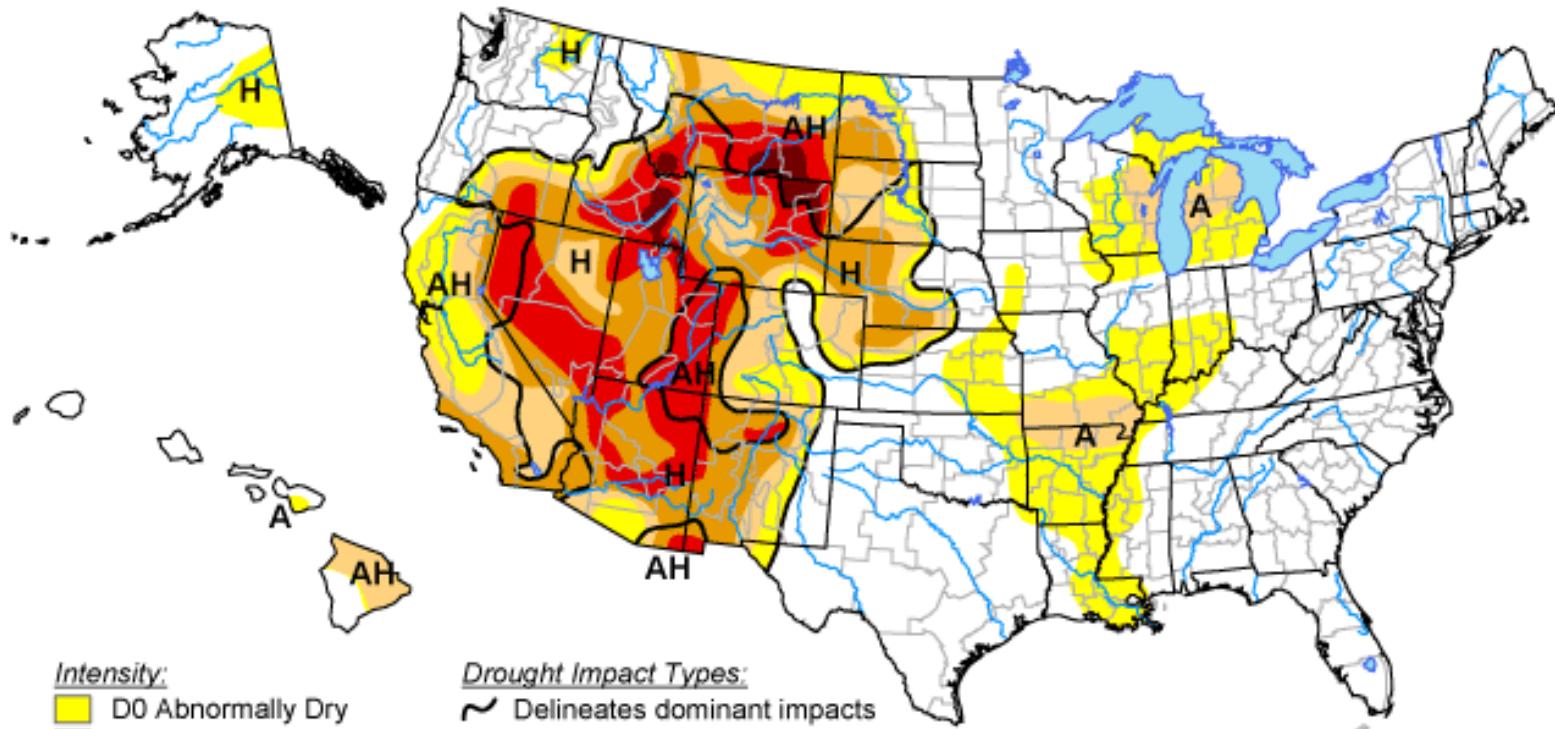
Growing Season (May-Sep) 2004

Precipitation as Percent of Average



U.S. Drought Monitor

October 5, 2004
Valid 8 a.m. EDT



Intensity:

- [Yellow square] D0 Abnormally Dry
- [Orange square] D1 Drought - Moderate
- [Dark Orange square] D2 Drought - Severe
- [Red square] D3 Drought - Extreme
- [Dark Red square] D4 Drought - Exceptional

Drought Impact Types:

- [Wavy line symbol] Delineates dominant impacts
- [Plow symbol] A = Agricultural (crops, pastures, grasslands)
- [Both impacts symbol] H = Hydrological (water)
(No type = Both impacts)

The Drought Monitor focuses on broad-scale conditions.
Local conditions may vary. See accompanying text summary
for forecast statements.

<http://drought.unl.edu/dm>

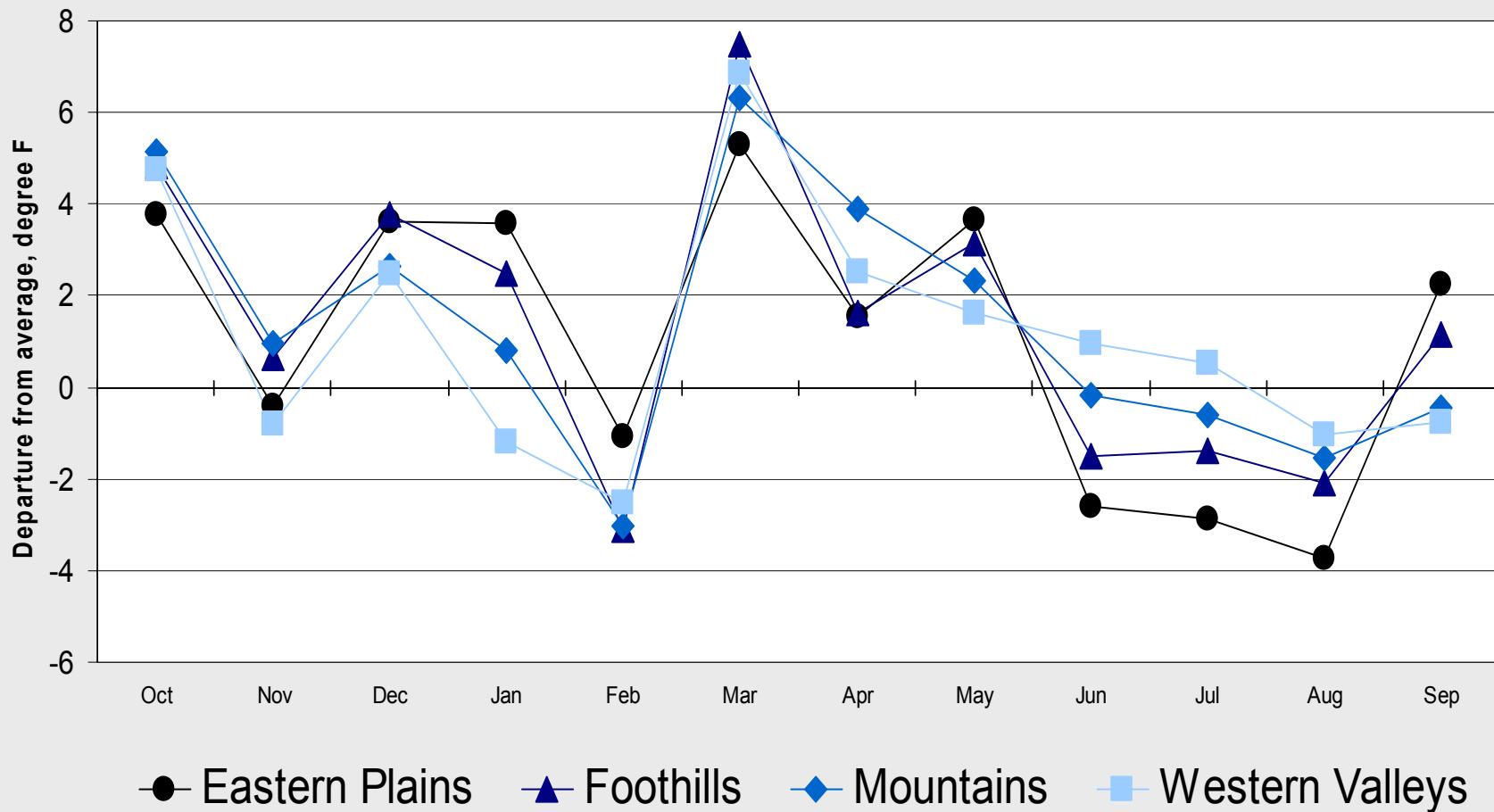


Released Thursday, October 7, 2004

Author: Michael Hayes, NDMC

WY2004 Temperature Departures

Water Year 2004



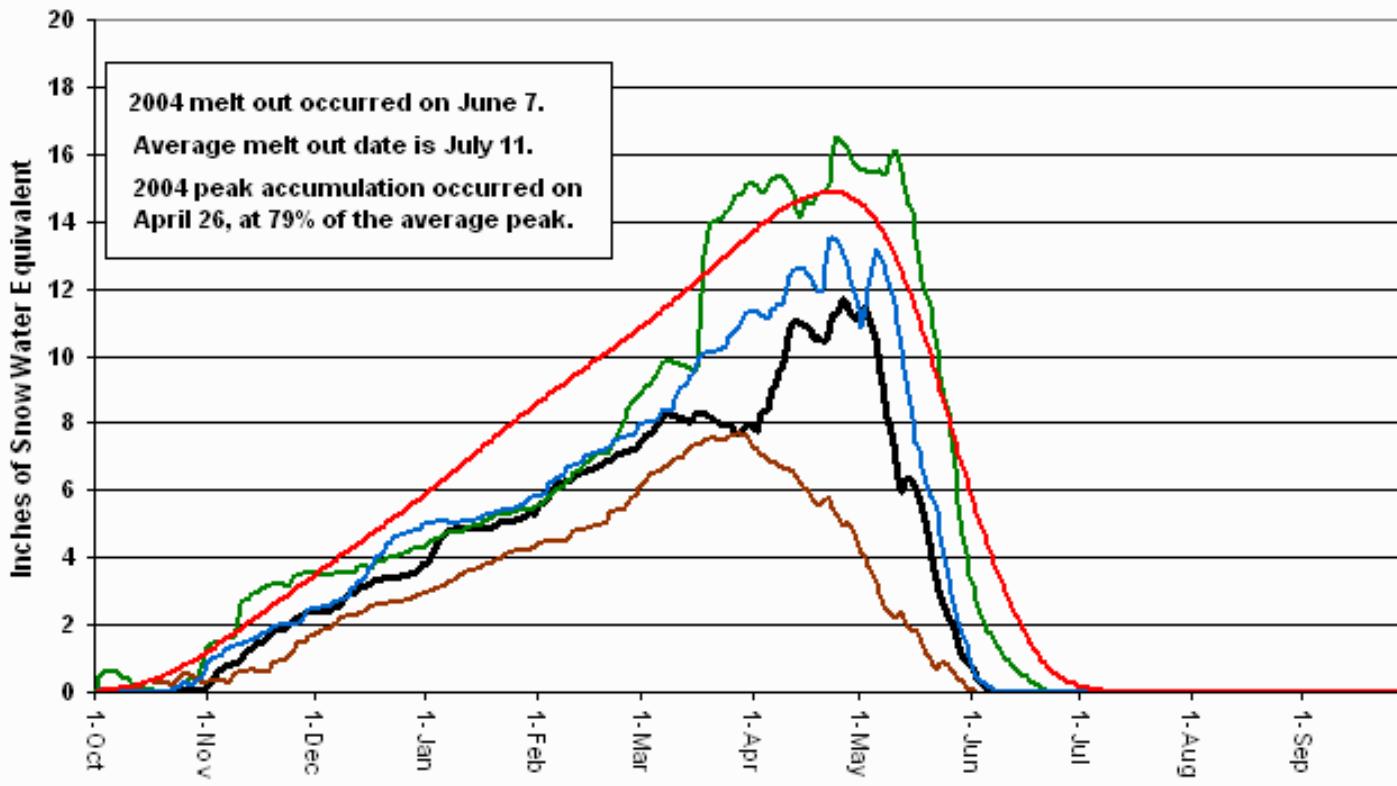
South Platte Basin Snowpack



South Platte Basin Snowpack

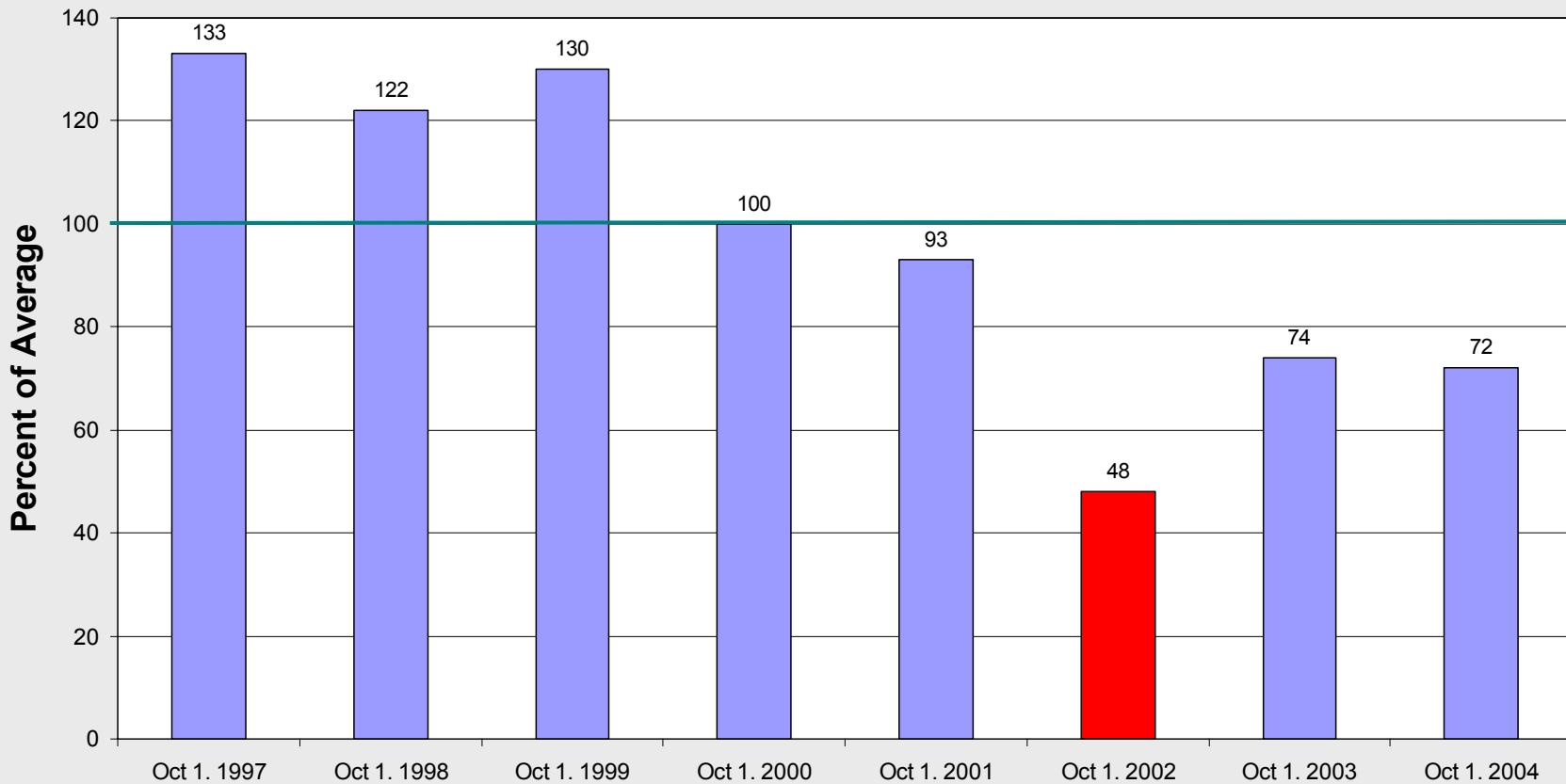
Based on provisional SNOTEL data.

— 2004 — 2003 — 2002 — 2001 — Average



Reservoir Levels

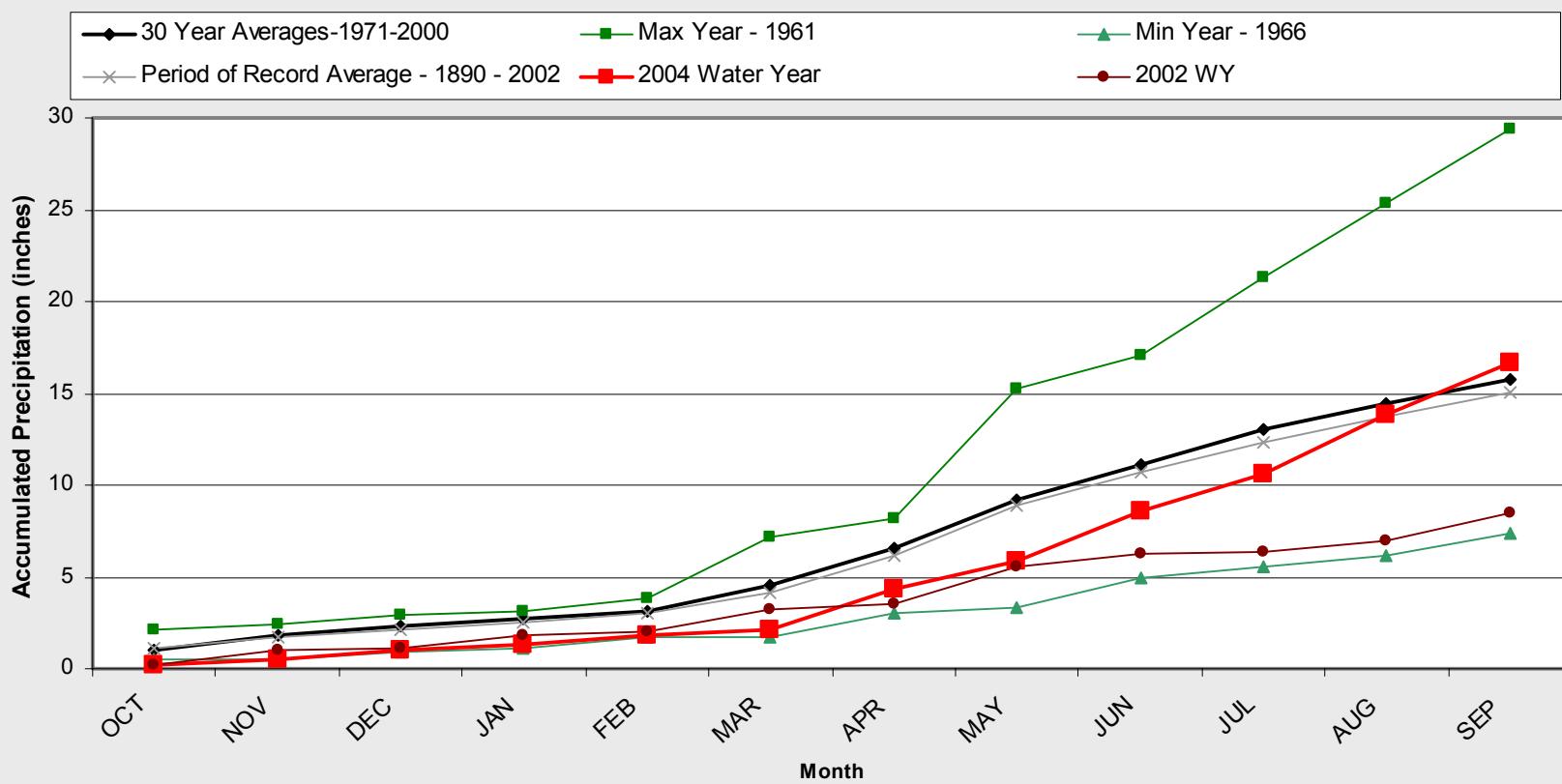
**Colorado Statewide Reservoir Levels on October 1st
for Years 1997-2004**



Provisional data from the NRCS

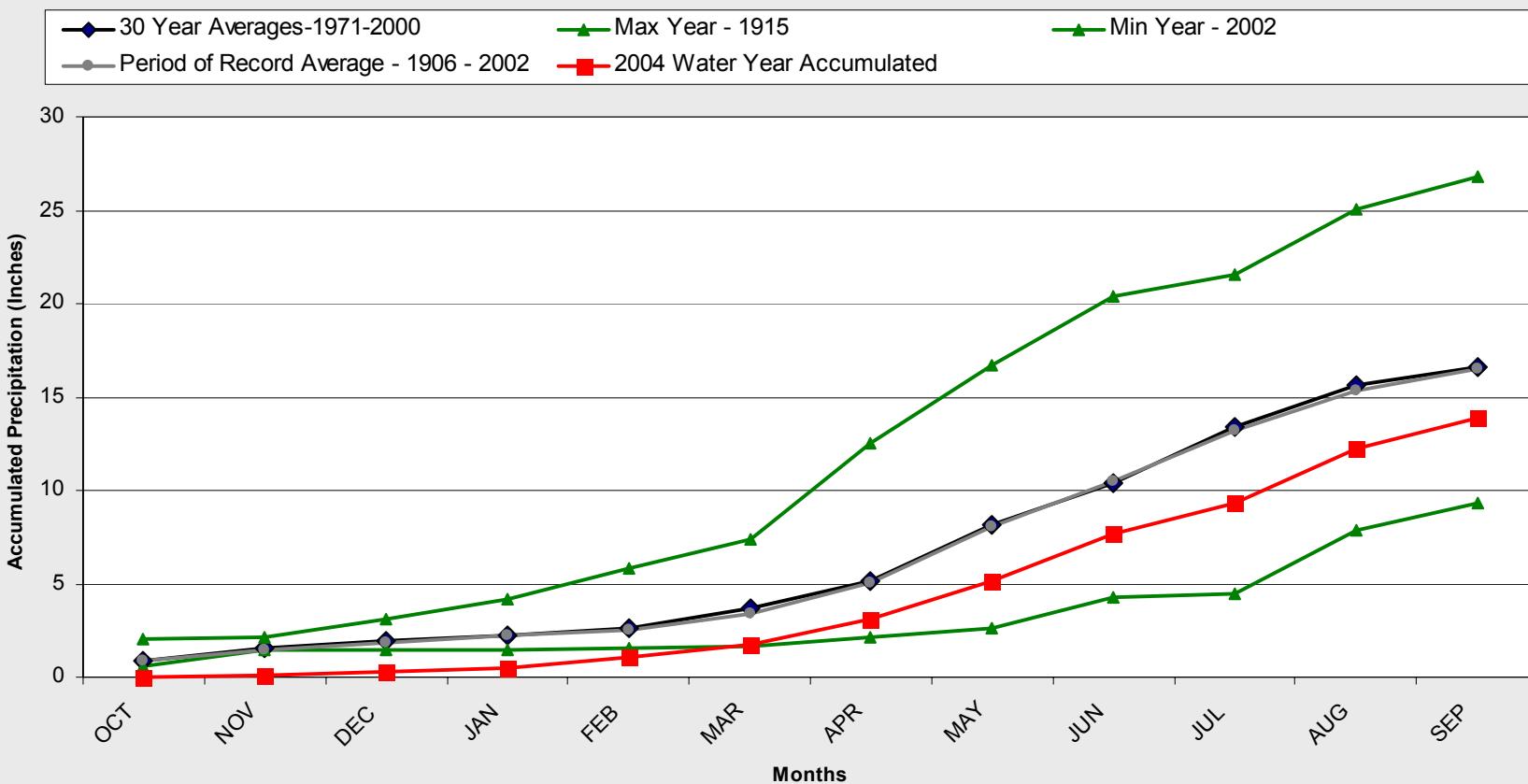
Fort Collins 2004 Water Year Precipitation

Fort Collins 2004 Water Year (through Oct '03 - Sep '04)



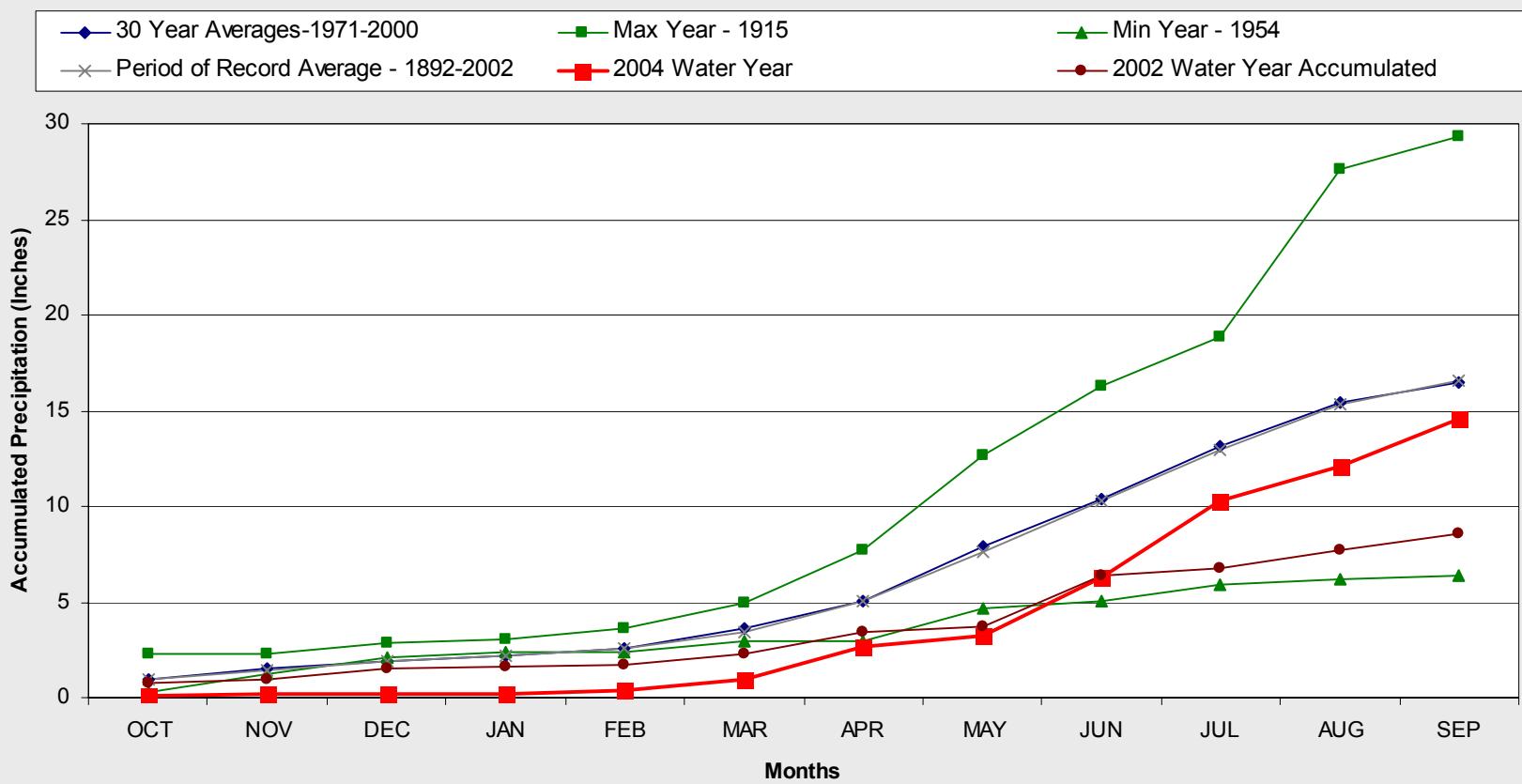
Akron 2004 Water Year Precipitation

Akron 4E 2004 Water Year (through Oct '03 - Sep '04)



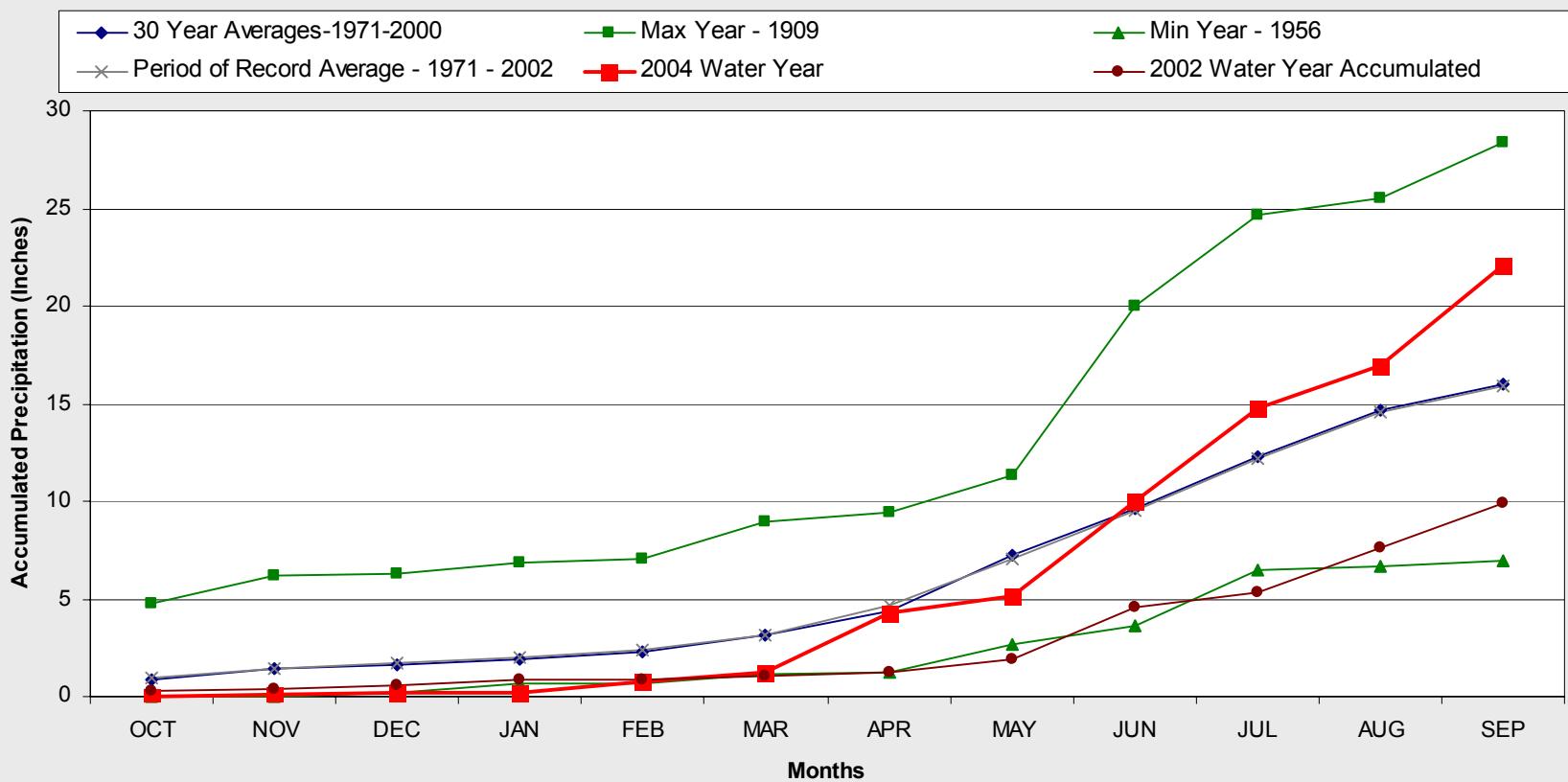
Burlington 2004 Water Year Precipitation

Burlington 2004 Water Year (through Oct '03 - Sep '04)



Cheyenne Wells 2004 WY Precipitation

Cheyenne Wells 2004 Water Year (through Oct '03 - Sep '04)



October 2004 Precipitation Totals

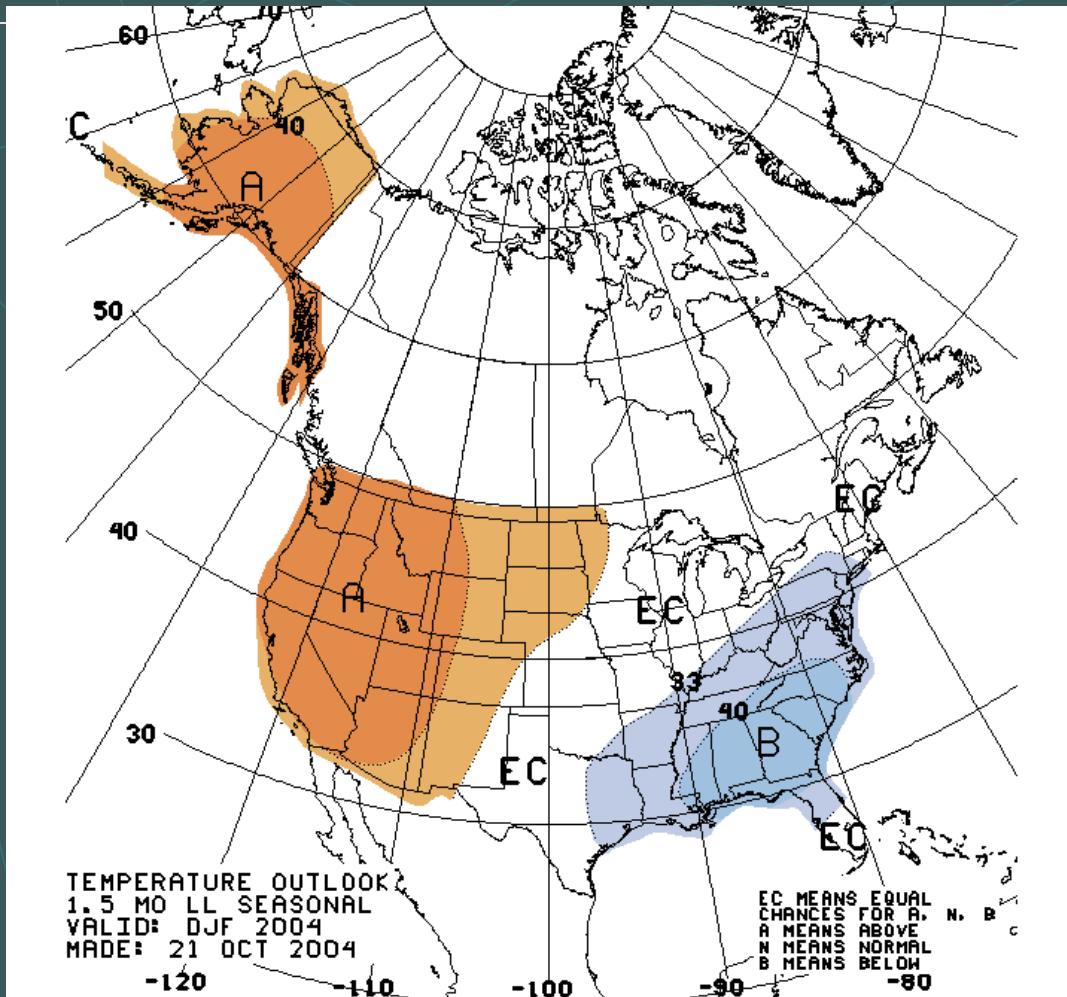
- Fort Collins – 1.05" (107% average)
- Akron – 0.80" (94% average)
- Burlington – 0.73" (78% average)
- Cheyenne Wells – 0.41" (51% average)



What Comes Next?



Temperature Dec-Feb 2004

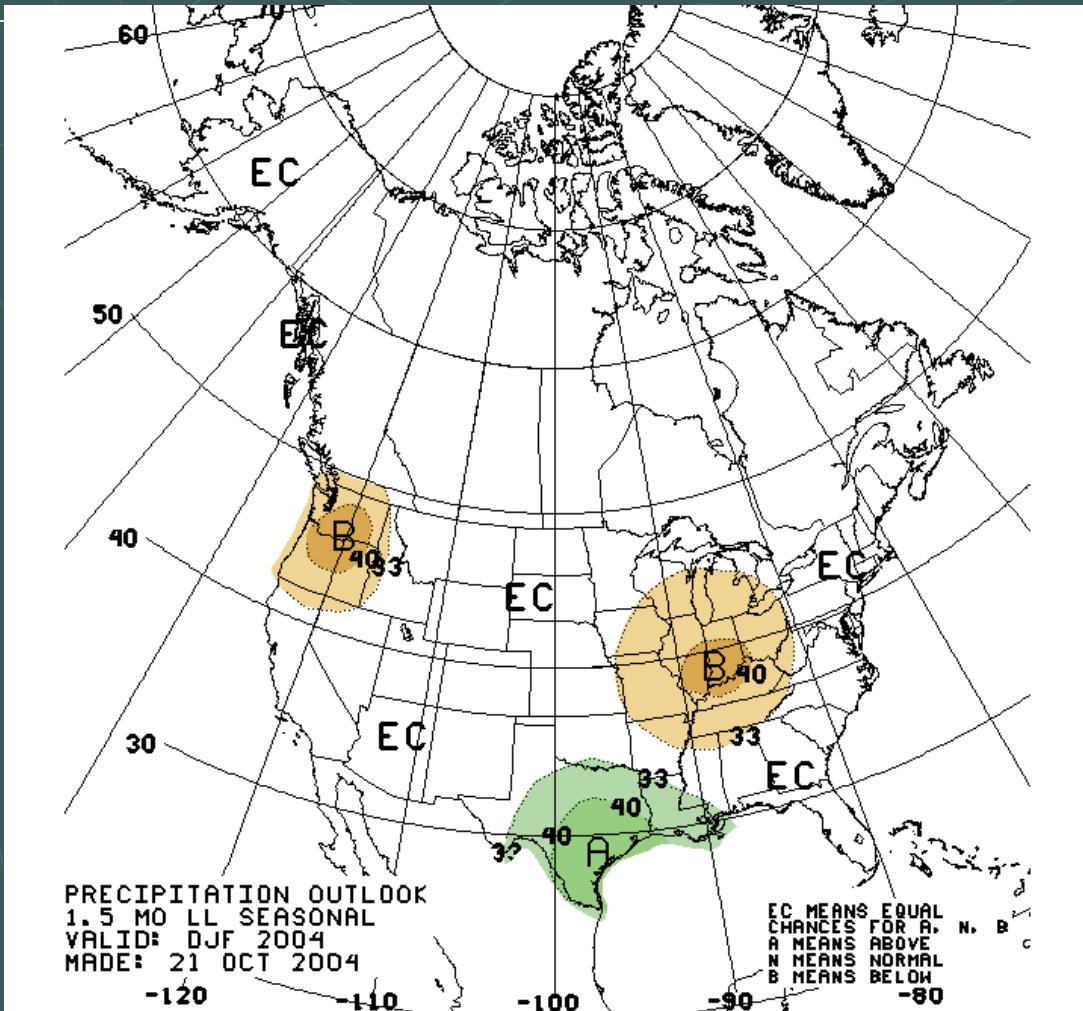


From the Colorado Prediction Center

http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

Precipitation

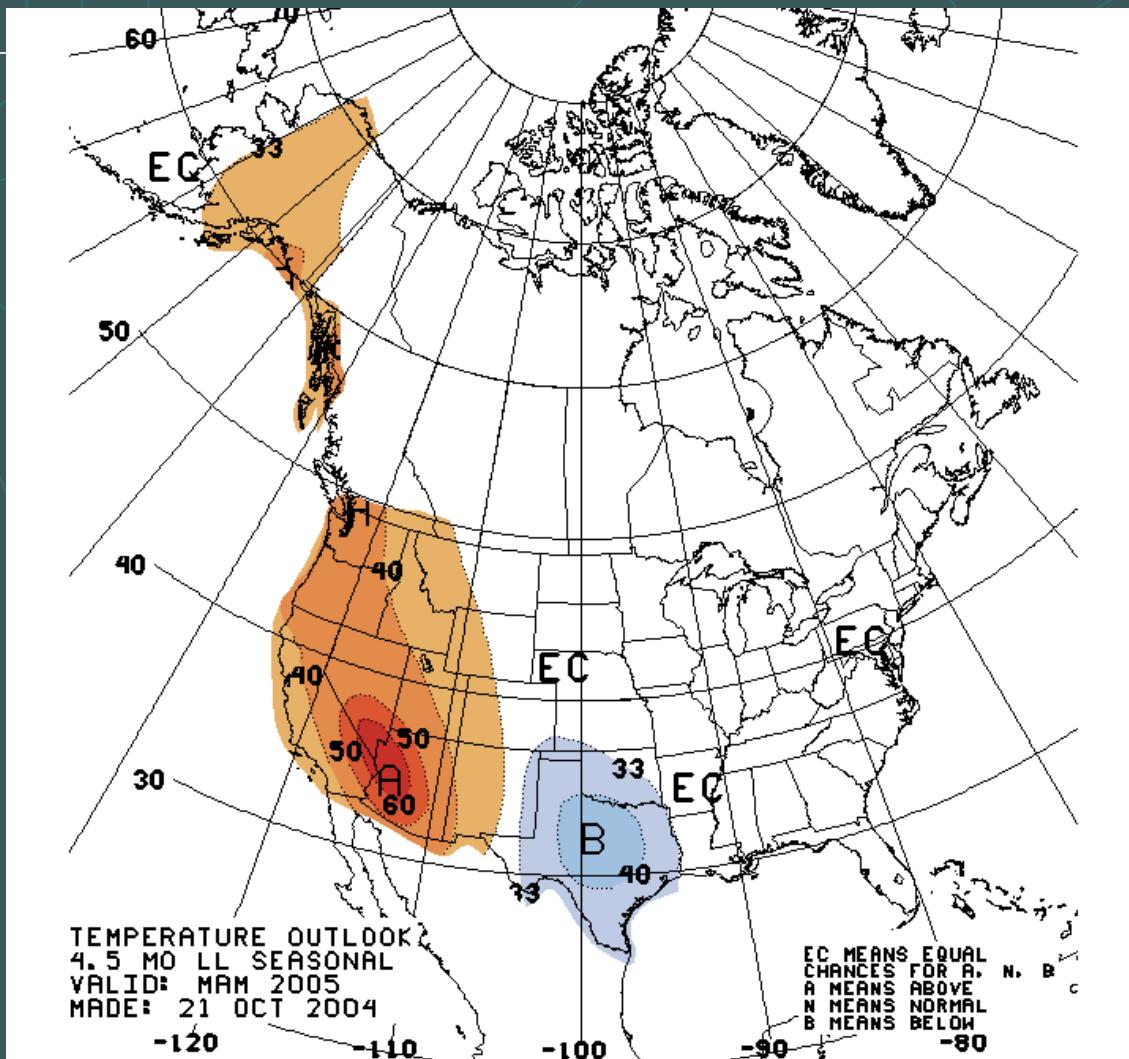
Dec-Feb 2004



From the Colorado Prediction Center

http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

Temperature Mar-May 2005

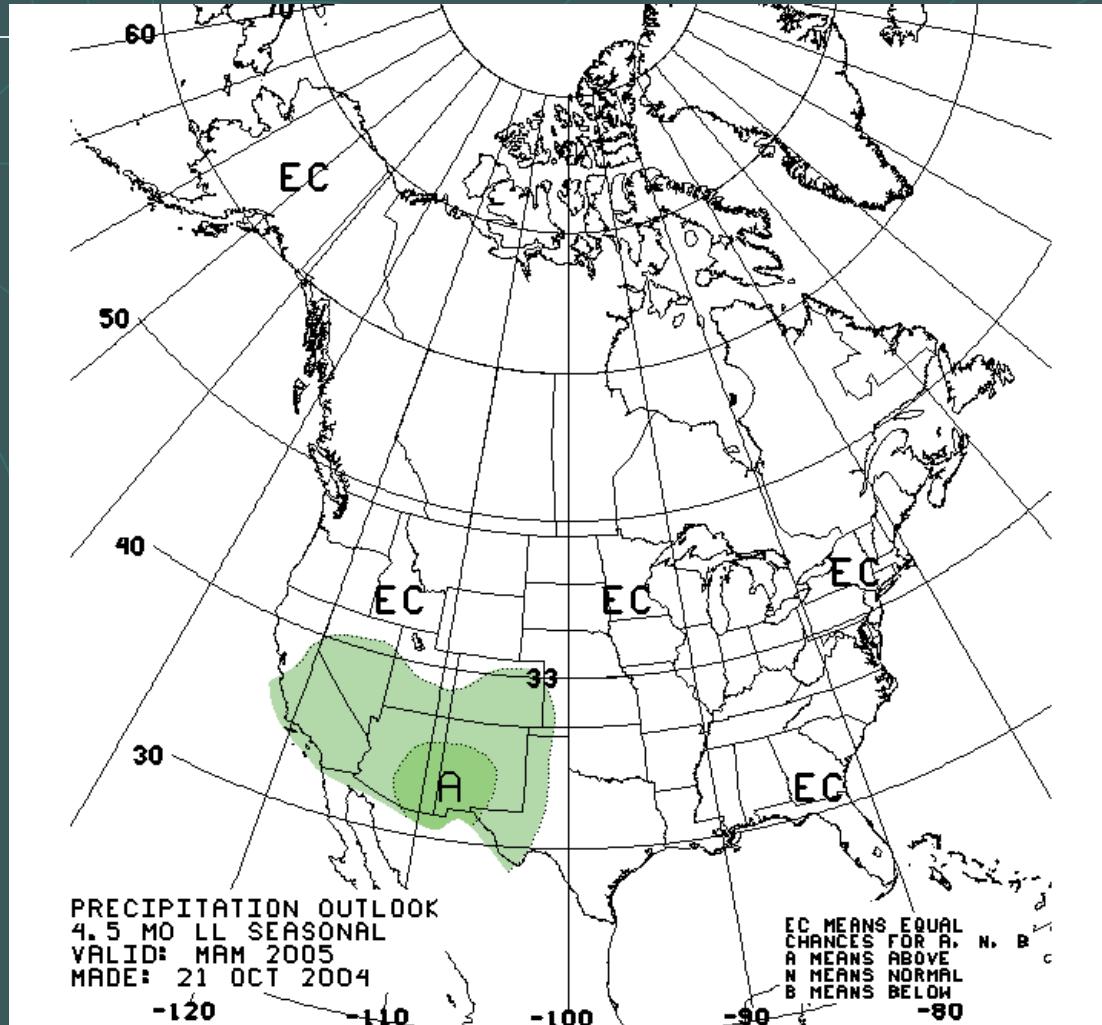


From the Colorado Prediction Center

http://www.cpc.ncep.noaa.gov/products/predictions/multi_seasonal_outlooks/color/churchill.html

Precipitation

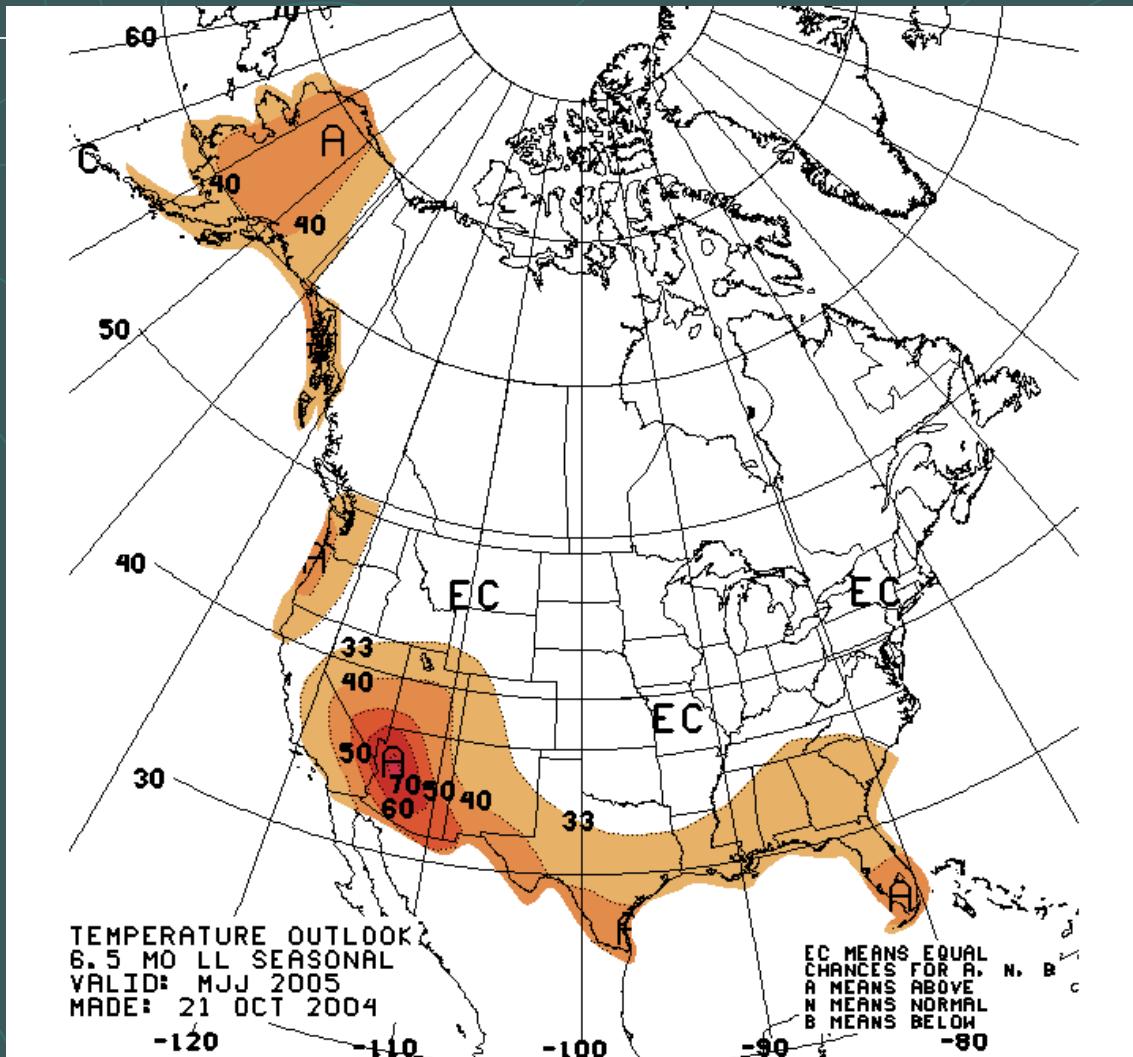
Mar-May 2005



From the Colorado Prediction Center

http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

Temperature May-Jul 2005

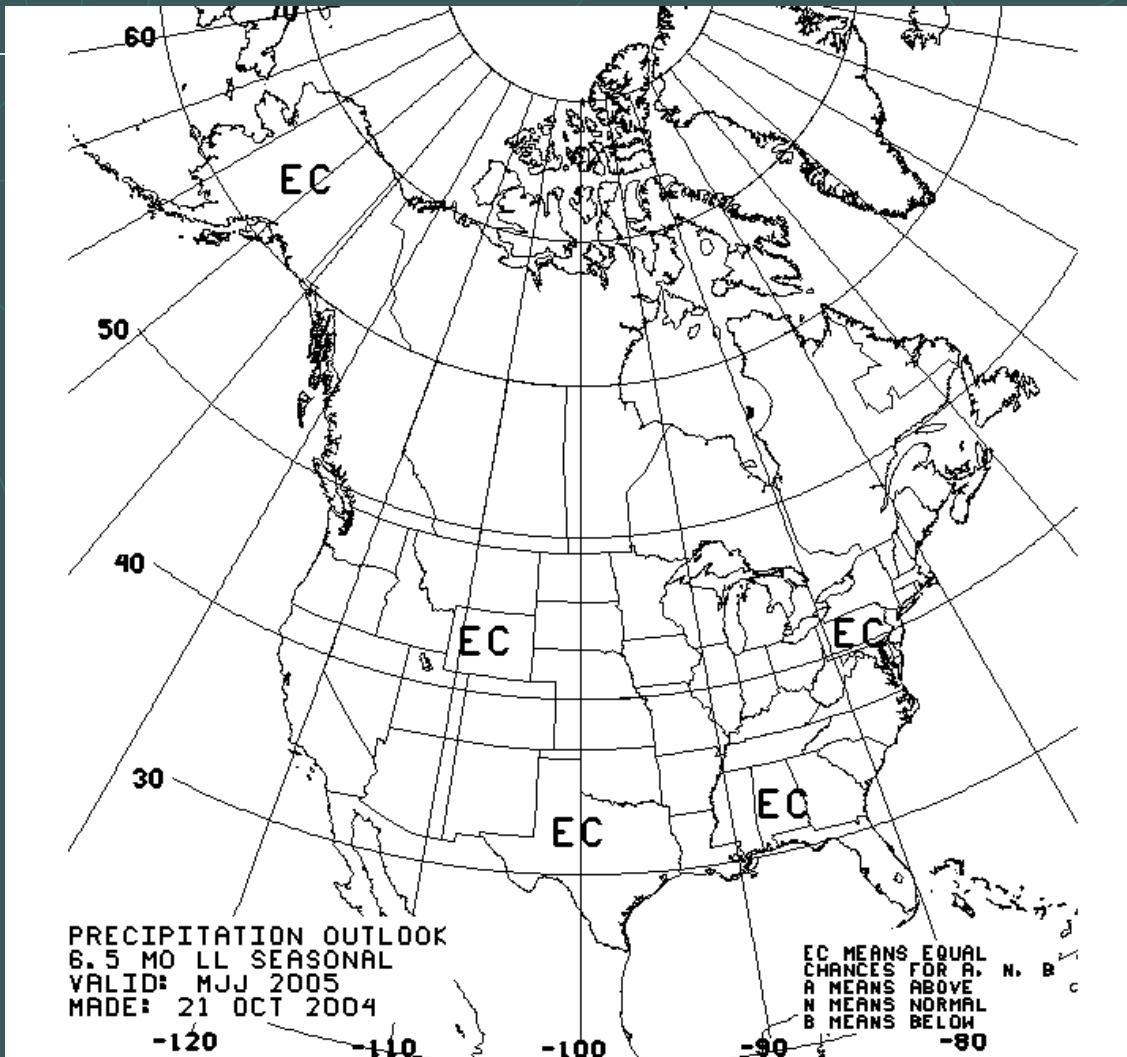


From the Colorado Prediction Center

http://www.cpc.ncep.noaa.gov/products/predictions/multi_seasonal/13_seasonal_outlooks/color/churchill.html

Precipitation

May-Jul 2005



From the Colorado Prediction Center

http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.html

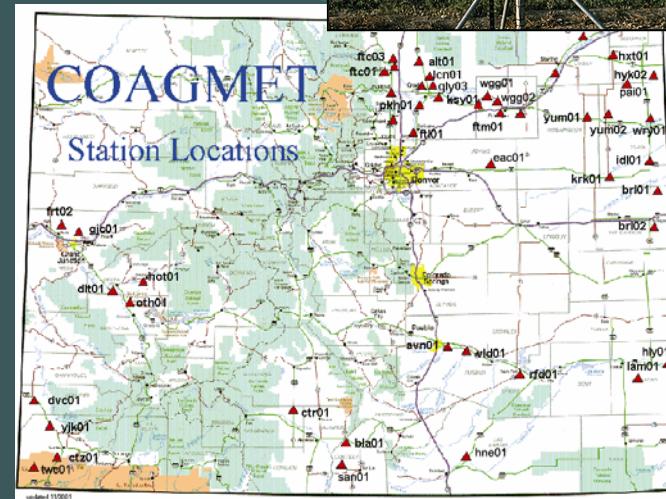
CoAgMet

Weather Data for Agriculture

- Automated weather stations with daily and hourly readings of:
 - *Temperature*
 - *Humidity*
 - *Wind*
 - *Precipitation*
 - *Solar energy*
 - *Evapotranspiration*



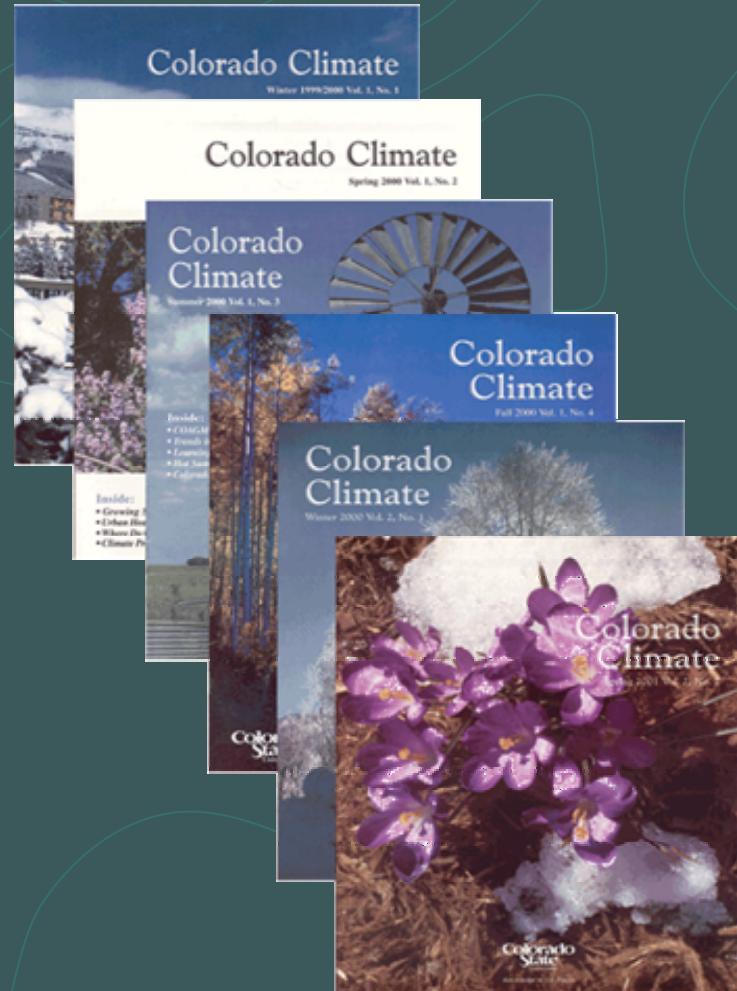
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<http://www.coagmet.com>

Colorado Climate Magazine

- Good bedtime reading about the climate of Colorado -- recent and historic
- \$15/year subscription pays printing and mailing costs



<http://ccc.atmos.colostate.edu/magazine.php>

Colorado Climate Center

Colorado State University

- Data and Power Point Presentations available for downloading
- <http://ccc.atmos.colostate.edu>
click on “Drought”
then click on “Presentations”

